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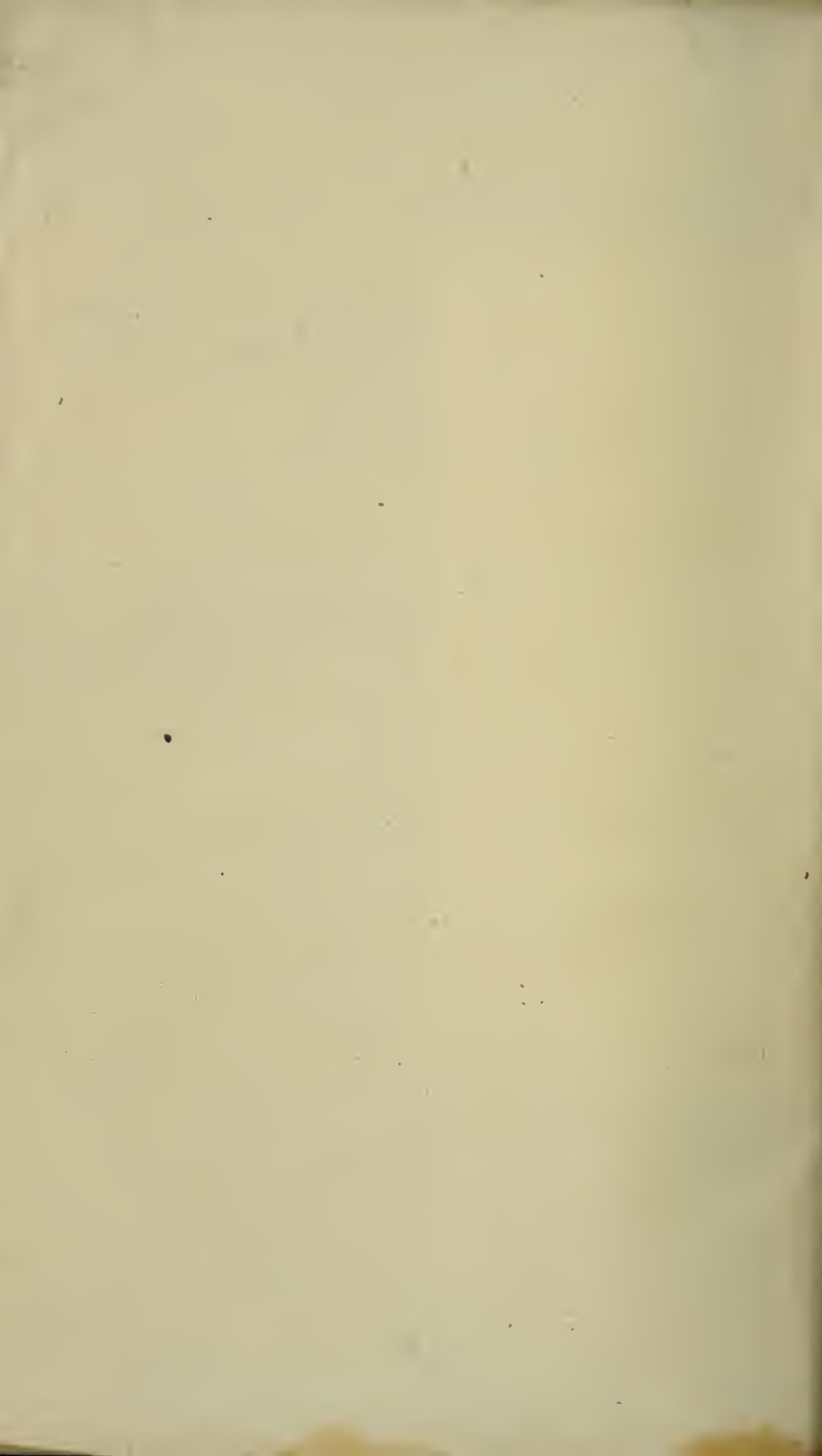
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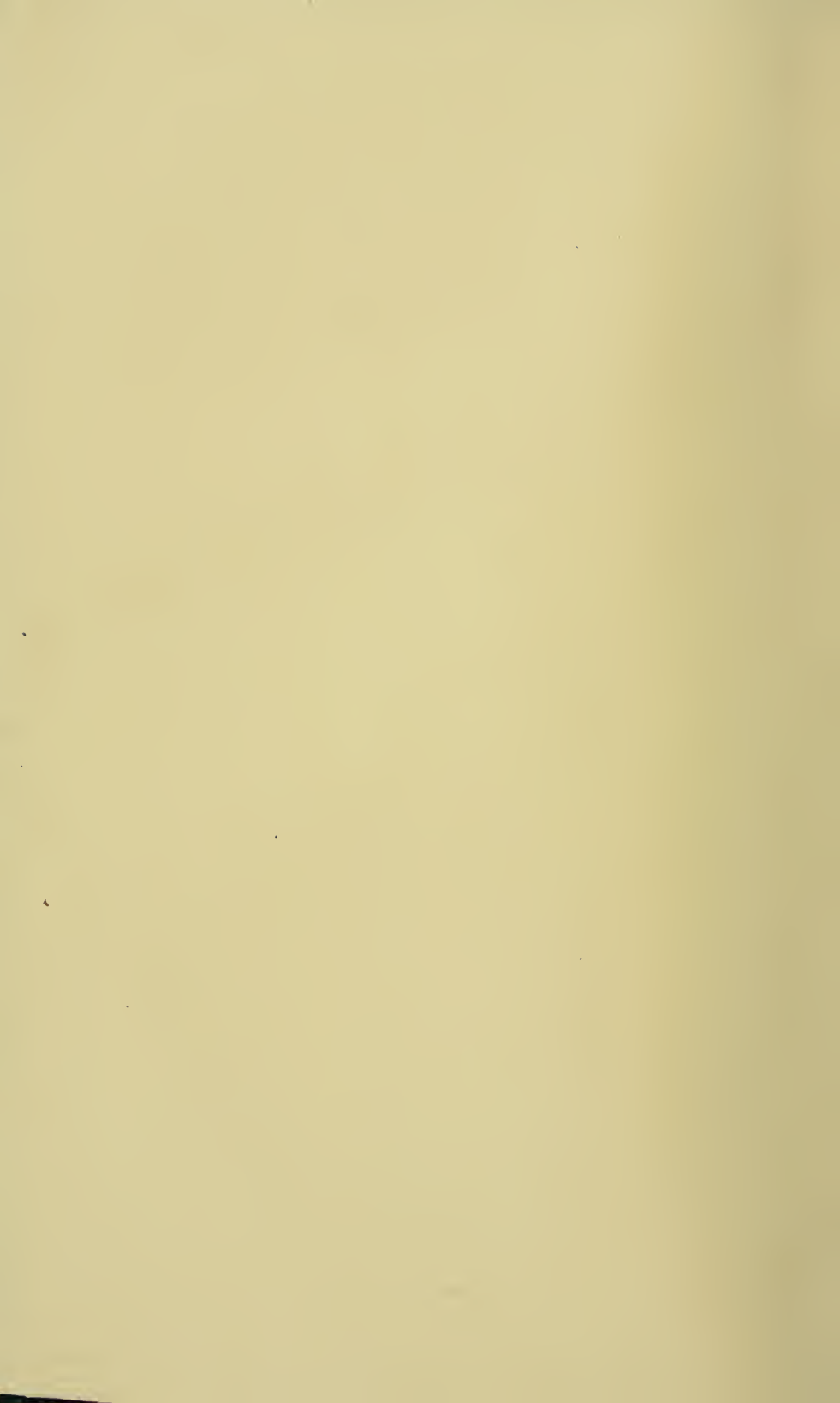
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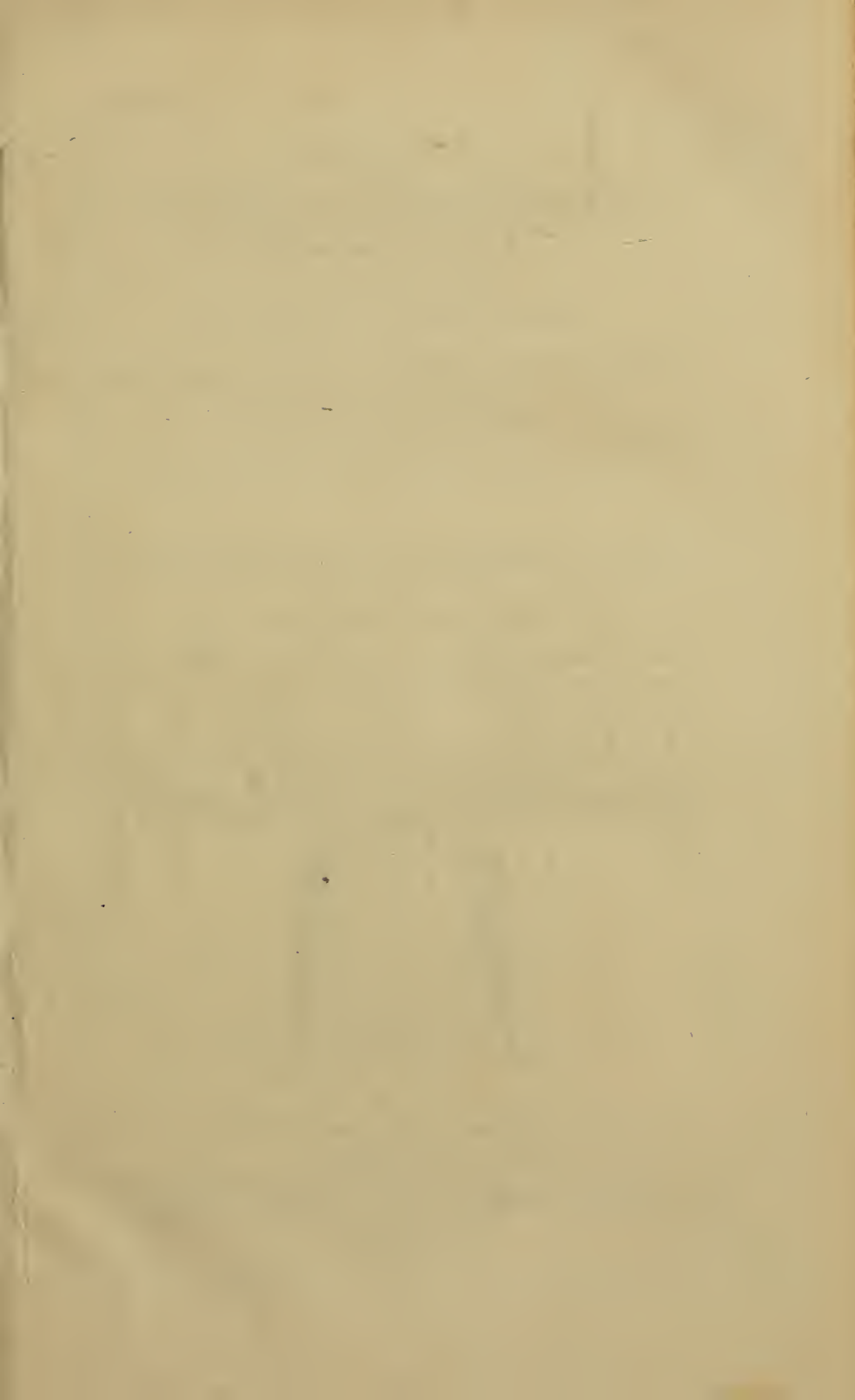
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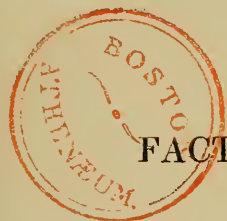
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DEDICATION.

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SAMUEL ARGENT BARDSLEY, M. D.

*Formerly Senior Physician to the Manchester Infirmary, Dispensary,
Fever Wards, Lunatic Hospital, and Asylum, &c.*

Accept, dear Sir, this tribute of gratitude for the affectionate care and advice, and numerous acts of kindness which I have received from you ; of respect for your talents and medical attainments, and of esteem for your private virtues ; and believe me ever,

Your most sincere Friend,

And attached Nephew,

JAMES LOMAX BARDSLEY.

10, Chatham Street, Manchester,

June 12, 1829.

PREFACE.

THE following work contains cases and observations, chiefly derived from the author's practice at the Manchester Infirmary; an institution which affords excellent opportunities for witnessing disease under its diversified forms, and adopting and contrasting various modes of cure. In proof of this fact it may be stated, that from the 24th of June, 1827, to the 24th of June, 1828, 16,680 of the different classes of In, Out, and Home Patients, enjoyed the benefits of this extensive charity. The author has chiefly availed himself of the advantages of his situation, in selecting for his inquiries that very important class of substances, THE VEGETABLE ALKALIES, with the view of determining their real *therapeutic* properties. His object has been to arrive at truth, and to give a concise and

unprejudiced statement of what he has himself observed respecting these remedies ; hence he has made it his care to relate the unsuccessful as well as favourable results attending their use in his hands ; for he is fully aware, that nothing has been more prejudicial to medical science than the publication of partial accounts of different medicines, which have been recommended to the notice of the Profession. The author is particularly anxious that all his conclusions should be most rigidly examined, and confirmed or rejected by future observations ; for it would give him much concern to assist in adding a single article to the list of inefficacious remedies, which has already been too much extended ; but he has reason to believe, that several of the vegetable principles, whose virtues he has endeavoured to illustrate, will form valuable additions to the *materia medica*. The reviewer of Magendie's formulary thus expresses himself respecting the vegetable alkalies. “ Nous ne doutons pas qu'il n'en

doive être des nouvelles substances dont la chimie et la physiologie ont enrichi récemment la matière médicale, comme il en a été des préparations antimoniales ; c'est à dire, que nous sommes bien persuadés qu'un jour ces medicamens seront appréciés comme ils le méritent, et qu' alors leur usage deviendra général pour le bien de l'humanité*."

It would not have been difficult to have produced a greater number of cases, but it is hoped, that those detailed will be deemed sufficient to shew the properties of the several remedies brought under consideration.

Besides the vegetable principles noticed in the work, the author has made trial of *Picrotoxia*, *Delphia*, *Solania*, and *Lupulia* in several affections ; but their inutility as remedies in disease has prevented him from submitting the results of his experiments with them to the public ; for a detail of so many failures could prove neither interesting nor instructive. The observations on the treat-

* Archives Generales de medicine.—Tome xvi, January, 1828.

ment of *Chorea* and *Diabetes* are deduced from the author's experience of the comparative efficacy of different modes of practice in those affections. *Chorea* is a very common disease amongst the patients of the Manchester Infirmary; and the opportunities of witnessing well-marked cases of *Diabetes* are by no means few; for it mostly falls to the lot of each of the Physicians to the Institution to admit several examples of that affection during the year. This circumstance is somewhat singular; for it appears, that out of 12,950 patients brought under the care of Dr Elliotson, four only laboured under *Diabetes**. The report on the effects of sulphureous fumigations in certain cutaneous and other diseases is intended to impress practitioners with a *higher* sense of their claims to more general use. The author has been actuated in his present undertaking by a desire to offer his mite to the stock of

* Within the last two months, the author has admitted four cases of *Diabetes*, and his colleague Dr. Carbut has very obligingly transferred another to his care.

practical information; for the farther advancement of the medical art chiefly rests on the gradual but continued accumulation of individual contributions. "I consider it as a principle (says Dr. Black) admirably good in itself, and in its application promotive of the interests of science and humanity, that every professional man should contribute his quota towards a general fund, from which we may expect to derive accurate histories of disease*."

The author is fully sensible of the indulgence which the work requires from his medical brethren; but relying on the liberality of the profession, he submits it with much deference to their judgment; and if he only succeeds in adding ONE to the number of means already proposed for the alleviation of human misery, he will consider his labours both usefully employed and amply rewarded.

* Clinical and Pathological Reports, page 111.

CONTENTS.

	Page
<i>On the Medicinal Properties of Strychnia in Paralysis, with illustrative Cases</i>	1
<i>On the Medicinal Properties of Strychnia in Chronic Diarrhœa...</i>	42
<i>On the Medicinal Properties of Strychnia in Amenorrhœa</i>	51
<i>On the Medicinal Properties of Brucia in Paralysis.....</i>	59
<i>On the Medicinal Properties of the Acetate of Morphia, in some instances of painful affection of the Stomach</i>	77
<i>Cases of Uterine Disease, in which the Acetate of Morphia was beneficially employed</i>	94
<i>Cases of Neuralgia, in which the Acetate of Morphia was successfully employed</i>	101
<i>Experiments and Observations on Veratria and Colchicum Autumnale</i>	109
<i>Remarks on the Virtues of Iodine in Bronchocœle, Scrofula, &c...</i>	120
<i>On the Medicinal Uses of Cinchonia and the Sulphate of Quinia</i>	133
<i>On Gentiana.....</i>	146
<i>On Emetina</i>	148
<i>Comparative View of the Treatment of Chorea.....</i>	150
<i>Cases of Diabetes, with Remarks on the Treatment of that Disease</i>	168
<i>A Report on the Efficacy of Sulphureous Fumigations in Diseases of the Skin, Chronic Rheumatism, &c.....</i>	192

ON
THE MEDICINAL PROPERTIES
OF
STRYCHNIA IN PARALYSIS;
WITH
ILLUSTRATIVE CASES.

THE *strychnos nux vomica* is ranked by Linnæus in the natural order *Luridæ*; and by Jussieu in his natural arrangement *Apocineæ*. The tree which affords the vomic nuts of commerce grows abundantly in Ceylon, Malabar, and on the coast of Coromandel. This species of *strychnos* has been accurately described in several works on medical botany, and particularly in the highly valuable publications of Roches, and of Dr. Stephenson and Mr. Churchill. The deleterious properties of the *nux vomica* were familiar to the Arabians, and recent experiments have satisfactorily shewn, that in large doses it proves fatal to animals. Several eminent physiologists (amongst whom may be mentioned the respectable names of Chevreul, Desportes, Dufresne, Dunal, Braconnot, Orfila, Magendie, and Delile), have sedulously occupied themselves in in-

vestigating the peculiar action of the *nux vomica* on the animal frame. Their experiments shew that it varies in its effects on different animals; that its deleterious influence is more rapidly manifested when a portion of it is injected into the pleura, peritoneum, or jugular vein, than when introduced into the vessels remote from the heart, or applied to any of the mucous surfaces of the body; and that its action upon the system is destroyed by previously removing the spinal marrow. Desportes, Magendie, Delile, Orfila, and others, have carefully examined the brain and thoracic and abdominal viscera of many animals destroyed by the *nux vomica*, with the view of determining the cause of death, but in no one instance did they observe the slightest marks of inflammation. In his account of the dissection of a dog killed by the *nux vomica*, Orfila observes: "There was no vestige of inflammation in the digestive canal, nor in the organs of respiration, nor in the brain; the cerebral sinuses appeared somewhat more gorged than in their natural state; almost the whole of the *nux vomica* was contained in the stomach; the heart contained blood which was of a black colour, and somewhat coagulated, especially in the right auricle." He notices the action of the *nux vomica* upon a fowl, as detailed by M. Desportes, and the following is the account of the examination of the bird after death. "The brain, trachea, lungs, heart, and vessels, exhibited nothing particular; as likewise the œsophagus.

The crop was greatly distended, and filled with pieces of the nux vomica, no ways altered, some grains of corn, and a small quantity of fluid; the whole of this mass had a sour smell. The membranous stomach and the gizzard contained portions of nux vomica very greatly altered; the others only beginning to be so by the digestive action of these organs. The intestine contained a chymous matter; each cæcum and the colon a greenish matter. The mucous membrane of all these parts, as well as that of the oviduct, presented *no trace of inflammation*. No alteration in the colour of the bile. The animal was become somewhat lean*." It appears from these and several other experiments on record, that the nux vomica does not occasion any organic lesion, but has a direct action upon the nervous system, causing death from the asphyxia produced by the immobility of the chest during the violence of the tetanic spasms of the thoracic and abdominal muscles.

In 1808, M. Chevreul analyzed the nux vomica, and found that it contained the following ingredients: acidulous malate of lime, gum, vegeto-animal matter, bitter matter, and probably starch, which could not be directly obtained on account of its state of desiccation; earthy and alkaline salts; woody hairs and wax, which seem to preserve the

* *Traité des Poisons, ou Toxicologie Générale*, tom ii, p. 334, 341, 342.

perisperm from humidity*. The vomic nut was afterwards subjected to careful analysis by those distinguished chemists Pelletier and Caventou, who discovered in it two vegetable alkalies, *strychnia* and *brucia*. They have shewn that the strychnia exists in the nux vomica and St. Ignatius's bean in the state of an igasurate, being in combination with a new acid named by them *igasuric*†. The nux vomica has long been employed as a remedy in many diseases, and has been strongly recommended for its efficacy in intermittent fever, dysentery, and some nervous affections, such as hysteria, mania, dyspepsia, hypochondriasis‡, &c. Its use, however,

* Orfila, oper. ante cit. p. 332.

† For an account of the several modes which have been employed for preparing strychnia, the reader may consult the eighth, ninth, and tenth volumes of the *Annales de Chimie et de Physique*, Magendie's *Formulary*, Paris's *Medical Chemistry*, and Thomson's *Chemistry*.

‡ There is a long and valuable article on the different forms and powers of the nux vomica, in the *Mat. Med. of Geoffroi*, vol. ii, p. 448, 462, of which the following is an extract:—

“Tandem de viribus nucis igasur ex aliis observationibus refert vomitum ciere ut plurimum, dejectiones nonnunquam, motus spasmodicos fere semper in Hispanis, in Indis verò nullos excitare.

“Exhibetur in affectibus comatosis, stupore, apoplexiâ, lethargo, paralyti, epilepsia, asthmate et catarrho, febre tertianâ et quartanâ, ad urinas, menses et puerperia suppressa provocanda, lumbricos expellendos; in dolore colico, cruditate ventriculi et concoctione læsâ, diarrhæâ, tenesmo, et viscerum obstructioni-

was almost entirely neglected until Magendie, Delile, and Fouquier called the attention of the profession to its remedial properties. The last named physician becoming acquainted with the fact established by Magendie, *viz* ; that the nux vomica *exerts an especial action on the spinal marrow, and nerves emanating from it, as well as on the muscles which those nerves supply*, was led to make trial of this substance in several cases of paralysis of the inferior extremities ; and he afterwards published the results of his successful experiments with it in that disease *. Magendie was at the same time engaged in a series of similar experiments with the nux vomica, which afforded additional evidence of its value in paralytic affections. Dr. Cooke, in his valuable treatise on palsy, has been at the pains to collect several cases in which the nux vomica has been employed, but with varied success. Georget † and Alibert ‡ do not seem to have used this remedy with much advantage. The late eminent Dr. Good exhibited the nux vomica in many instances, but to use his own words, “he was never able from its

bus ; necnon etiam adversùs venena, venenatorum animalium morsus, et vulnèra è telis infectis.

* During my attendance at La Charité in Paris some years ago, I had several opportunities of witnessing the benefit attending the exhibition of the extract of nux vomica in paralysis, by M. Fouquier.

† De la folie, p. 502.

‡ Nouveaux Elemens de Therapeutique, tom. i, p. 438.

tendency to termulency to proceed much more than half as far as some practitioners have gone, who have gradually advanced it from four grains of the powder to twenty-four, three or four times in the day." He has detailed the case of the late E. Sheffield, Esq. in which it was employed for some time, "but without any permanent return of muscular power or sensation in the palsied limbs." Dr. Good, however, adds, "that this was a case of atonic affection, and hence there was no opportunity of giving full play to the power of the *nux vomica*." Some of my early trials were made with the extract of *nux vomica*, but owing to the variation in the effects of that substance, according to any peculiarity in its mode of preparation, I was led to relinquish its use in favour of *strychnia*, whose action is more *certain* and *uniform*. Since my experiments with *strychnia* were framing for publication, it is pleasing to find, that this remedy has produced in other hands some of the effects I have described *. The annexed cases are intended to shew the *real* virtues of *strychnia* in paralysis, and to illustrate the precise nature of its action on the human body in a state of disease.

* It has been successfully employed by Cattaneo, Cramer, and Diffenbach. The observations of the first named writer more particularly merit attention. I am indebted to Dr. Stephenson and Mr. Churchill for the first information respecting the experiments of Cattaneo, as published in Omodei's *Annali Universali di Medicina*. Vid. Medical Botany, No. XIII.

CASE I.

MARY MITCHELL, aged 30 years, admitted 28th March 1824.

She has entirely lost the power of the left side, with diminished sensibility. Complains also of occasional severe headach, and is liable at times to sudden attacks of vertigo. Her articulation is much impaired. Urine and fœces passed involuntarily in bed. Corner of the mouth much drawn to the right side, pulse 86, rather feeble. Countenance pallid. Sleeps ill. The attack occurred about three months ago, shortly after being delivered of twins, and has gradually increased. She attributes her complaint to over-fatigue and cold, when far advanced in pregnancy. Has used several remedies, but is ignorant of their nature. Ordered five leeches behind each ear, a blister to the nape of the neck, and a dose of the common purging mixture of the house. April 1st. Leeches bled freely, and blister discharged well, with relief to pain in the head. Several copious stools obtained from purgative. To commence with the twelfth of a grain of strychnia, in the form of pill, twice a day. 4th. Symptoms unchanged. Strychnia pill to be taken three times in the day. 7th. Head remains free from uneasiness. No perceptible effect from alkali. 10th. The dose of strychnia to be increased to the eighth part of a grain, three times a day. Bowels regular. 14th. The alkali has not as yet occasioned any manifest effect upon the system. The fourth

of a grain to be exhibited three times in the day. 20th. Has again complained of slight pain in the head, but without vertigo. She states that she experienced yesterday a slight sense of prickling in the paralytic members, which continued for some time after each dose of the pills. No medicine required for bowels. Leeches to be repeated. 24th. Pain in the head very trifling since repetition of leeches. To continue. 27th. She appears to possess much more feeling in the affected side, as well as increased power over the paralysed muscles. Makes no complaint of pain in the head this morning. Half a grain of strychnia to be taken twice in the day. 30th. On the second day after the exhibition of the alkali in this proportion, the patient experienced smart convulsive twitchings of the muscles of the diseased side. They are now present. May 3d. She can move the paralytic limbs much better, and begins to feel conscious when the bladder and rectum are evacuated. To take one grain of strychnia twice a day. 6th. Head became affected with stupor and vertigo, and rigid contractions of the muscles of both sides of the body supervened to the employment of the third dose of the alkali in the proportion noticed in the report of the 3d. This quantity, however, was repeated yesterday and also this morning, and has been unattended by the former severe effects of the medicine. The patient has regained a considerable degree of power over the leg and arm, and the tone of the sphincters of the bladder and rectum

is much restored. Not deeming it prudent to increase the dose of the alkali, she was directed to continue the one grain twice in the day. 14th. This dose now occasions no inconvenience. To continue the strychnia in doses of half a grain, three times daily. 17th. She is now much better; can hold a cup to her mouth when she wishes to drink, and also raise her left leg from the bed. She sits up during the day, and regularly asks for the bed pan when she requires it. Speech more distinct. Pills to be continued. 20th. Continues to improve. To persevere with the pills. 28th. From the date of the last report up to the present period, her amendment has been rapid, for she now not only supports herself in the upright posture with the aid of crutches, but even walks with them from one bed to the other. Her strength, articulation, and general health are much improved: appetite keen. She expressed a strong desire to leave the hospital, from a conviction that change of air would effect her restoration to perfect health. I endeavoured to persuade her to remain as an in-patient for a short time longer, but without success. She was accordingly discharged greatly relieved at the first meeting of the weekly board, with a request on my part that she would inform me in case any relapse of her ailment should occur. I heard from her in about two months after her discharge from the hospital, and was glad to find that she had recovered the perfect use of the paralytic members, and could

attend to the affairs of her family as well as at any former period of her life.

REMARKS.

In this case the strychnia was very serviceable, and indeed, the patient's recovery was fairly attributable to a persevering use of this active remedy. The twelfth of a grain of the alkali was first exhibited twice a day, and this proportion was increased at regular intervals to the extent of one grain twice a day; but it was found that the patient could only take half a grain thrice in the day without experiencing a slight degree of inconvenience. The appetite was much improved during its exhibition.

CASE II.

HENRY WHITEHEAD, aged 31, was admitted on the 28th February 1824, with the following symptoms.

Has been troubled with slight pain in the head for some months, which has been frequently relieved by local abstraction of blood from the neighbourhood of the sensorium. Has lost the entire power of the inferior extremities, but their sensibility remains unimpaired. Discharges his urine and fæces involuntarily. His countenance is pallid. Appetite indifferent. Pulse quick and feeble. Bowels regular. Sleeps tolerably well. Flesh of arms and trunk not much reduced. The complaint has ex-

isted three months, during which time he has been attended by different practitioners. He experienced a sudden diminution of power in the right leg about two years ago, but this affection was of short continuance, and disappeared without the aid of remedies. He has never been addicted (provided his word be worthy of credit) to excess in spirituous liquors, or to any irregularity in his general mode of living. He attributes his complaint to over-fatigue and cold. Ordered to lose ten ounces of blood from the nape of the neck by cupping, and to take a scruple of the compound jalap powder of the hospital immediately. Having previously exhibited the strychnia in several cases, in larger doses than are generally prescribed, I ventured in the present instance to commence with the fourth part of a grain three times a day. The following formula was employed :—

℞ Strychniæ gr. ij.

Conservæ rosarum q. s.

Divide in pilulas viij. quarum capiat unam ter quotidie.

1st of March. Only nine ounces of blood obtained by cupping, but the uneasiness experienced in the head is considerably relieved. Bowels freely moved by the powder, which it has not been necessary to repeat. The strychnia has not at present exerted any observable influence on the system. The strychnia to be taken four times in the course of the day. 5th. No change in the state of the affected limbs, but the patient mentioned this morn-

ing, that for the two last days, in about half an hour after each pill, he could have supposed (to use his own expression) “that somebody was pricking his legs with pins or needles;” and this sensation remained for nearly an hour. Being desirous, not only of continuing, but, if possible, of increasing the influence of the remedy without injuring the patient, I ventured to increase the dose of the alkali to half a grain three times a day, at the same time requesting the House Apothecary carefully to observe the action of the medicine, during a few times of its exhibition in this proportion; with a strict order to the man-nurse immediately to call in the aid of the Apothecary, should any symptoms of an alarming nature occur. 9th. Inferior extremities equally useless. After the fourth dose of the alkali in the proportion above-mentioned, the patient was suddenly seized with *vertigo, vomiting, sinking of the pulse, uneasiness about the præcordia, difficult respiration, rigid contraction of the paralyzed muscles and copious perspiration, particularly over the head and face*. These symptoms continued for some time, but yielded to the liberal administration of active stimulants, as brandy and volatile salt. The remedy was discontinued for one day. 11th. Recommended the use of the alkali, in the proportion of half a grain, twice a day. 14th. The patient has not acquired any increase of command over the muscles of the affected limbs. No unpleasant effects have been produced by the remedy since its

exhibition in the present proportion. Bowels have become rather constipated. To repeat the purging powder ordered on admission, and again to take half a grain of the strychnia three times in the day. 17th. He complains of convulsive twitchings in the inferior extremities, but they are unaccompanied with vertigo, or any of his former distressing symptoms. 20th. Little change. To increase the dose of the strychnia to a grain, three times in the day. Almost immediately after the exhibition of the third grain he was seized with severe pain at the scrobiculus cordis, and a violent spasmodic action of the muscles of the thorax and lower extremities ensued, during the continuance of which he was almost unable to speak or move, and breathed with extreme difficulty. When he so far recovered as to articulate distinctly, he complained much of uneasiness in his bowels, of pain in the head, and dimness of sight. The pulse was very small and contracted. His countenance indicated great distress. Active stimulants were immediately employed, and succeeded in removing these alarming symptoms. 23d. The alkali was again suspended for a day; but on the 25th its exhibition was resumed in the dose of half a grain morning and evening. The only symptom now present worthy of remark is the occasional action of the flexor muscles, by which the legs are forcibly drawn up in bed, and considerable effort is required to effect their extension. Appetite much impaired, strength declines, and the

affected limbs still remain torpid and useless. To take two ounces of the Infusum Calumbæ Acidum of the hospital three times a day, and to use half a pint of porter at dinner. 27th. Complains of debility and of a painful sensation in the epigastrium after each dose of the pills. Bitter infusion agrees well with the stomach, and porter is much relished. Continue the infusion and porter. The patient was now very anxious to have some other remedy tried, as he failed to experience any benefit from what he called the "twitching physic," and found himself losing instead of acquiring strength. I wished him, however, to persevere for some time longer with the alkali, and I accordingly prescribed the fourth of a grain of it twice a day, which was the dose employed on his first admission. 30th. Still complains of slight pain in the epigastrium. To continue. 2d April. No amendment in paralytic symptoms. Is not disturbed by the pills, though he always experiences slight convulsive twitchings in the legs a short time after taking them. To continue. 5th. Has complained of pain in the head since last report. Apply three leeches to each temple. Continue the pills. 9th. Pain in the head removed by leeches. The patient had some difficulty yesterday morning in evacuating his bladder, and in the evening the pain at the neck of that organ and the sense of distension in it were so severe as to render it necessary to employ the catheter. This operation to be repeated three times in the twenty-four hours.

Pills to be continued. A blister was now ordered to be applied to the sacrum. 12th. Blister produced considerable vesication. Bladder is still obliged to be emptied by the catheter twice or thrice a day. Diseased extremities as helpless as on first admission. Slight ulceration of the glans penis is observable near the orifice of the urethra, and the skin of the scrotum is rather inflamed in consequence of the irritation of the urine, which begins to dribble from him when a small quantity is collected in the bladder. Strength declines. Appetite almost entirely gone. Acetate of lead ointment to be applied to ulcer. Scrotum to be fomented with decoction of poppies. Use of the catheter to be continued. 16th. Ulcer improved. Inflammation of scrotum much diminished. Other symptoms unchanged. Debility rather increased. To omit the pills. The patient having remained much in the same state for another week, and as his friends were desirous of sending him into the country to try the influence of change of air, he was discharged on the 25th.

REMARKS.

I have entered into rather a full detail of the history and treatment of the above case, because I consider it entitled to attention, as affording a very favourable opportunity for marking the influence of strychnia on the system, when exhibited with regularity and perseverance, and in gradually increased doses. It may be proper to observe, that in this

instance there was no local affection of the spine to be discovered, and the disease seemed solely to depend on diminished nervous energy. Various remedies had been formerly tried by the patient without any benefit. The strychnia was diligently used for upwards of six weeks, but I think we are obliged to confess that no perceptible advantage was derived from its administration. It appears sufficiently evident from the above recital of symptoms, that this remedy exerts a powerful action on the nervous system in general; and that while it excites the muscles of the paralyzed parts to a state of spastic contraction, it fails to manifest its effects on the healthy members, except when too large a dose is given. I am not not aware that the strychnia has ever been exhibited in so large a proportion as I employed it in the above case. I may remark here by way of caution, that although in this instance the patient did not experience any permanent injury from the remedy, even when given in the dose of a grain and a half at equal intervals in the day, still its administration in such a proportion requires both care and judgment.

CASE III.

SAMUEL OGDEN, aged 46, admitted 21st June, 1824. He has been paralytic for more than four months, having lost the entire power of the limbs of the right half of the body; and the muscles of that

side have not recovered their former bulk and plumpness. He has been addicted to great irregularities in his general mode of living. Complains of pain in front part of the head, accompanied by vertigo. Speech rather inarticulate. Memory slightly impaired. Urine and fæces are both involuntarily and unconsciously discharged. Appetite indifferent. Pulse feeble. Countenance somewhat sunk. Six leeches were ordered to each temple, and a blister to the nape of the neck. To take three ounces of the *Mistura Sennæ Composita* immediately, and to repeat the dose every three hours until the bowels have been freely evacuated. 23d. Head relieved by leeches and blister. Several copious stools procured by a second dose of the purging mixture. To commence with one-twelfth of a grain of strychnia in the form of pill twice a day. 26th. Head continues free from pain. Bowels constipated. Paralytic parts remain in the same state. Dose of strychnia to be increased to the one-sixth of a grain three times a day, and the purging draught to be exhibited on alternate mornings. 29th. The only effect of the medicine as yet perceptible is an occasional sensation of heat along the spine. Bowels kept regular by draught. Dose of strychnia to be increased to the one-fourth part of a grain three times a day. 4th July. Slight convulsive twitchings of the paralyzed members. Head remains free from uneasiness. Thinks he possesses a little more feeling in the bladder and rectum. Dose of strychnia to be increased

to half a grain twice in the day. Slight tetanic symptoms have been present after each dose of the medicine, but they are by no means alarming, or of long continuance. There appears to be some improvement in the affected limbs, for he can now raise both the arm and leg with a little assistance, which he was quite incapable of effecting on his admission. This circumstance affords him great satisfaction, and inspires him with hopes of recovery. Half grain pill to be taken three times a day. 7th. This quantity was more than the patient could bear, as it produced vertigo, stupor, pain at scrobiculus cordis, irregular convulsive startings both of the sound and paralyzed parts, tendency to syncope, weak pulse, and extreme debility. The pill was therefore ordered to be given only twice a day. He is now capable of gently moving both the affected arm and leg, and of retaining, during the day, his urine and fæces. To continue the pills. 10th. The diseased side improves. To persevere with the pills. 13th. The patient can now move both the arm and leg in several directions, and also support himself in the upright posture, by the help of a stick in the left hand. To have four ounces of wine daily and to continue the pills. 17th. Yesterday, with the assistance of crutches, he walked more than once across the ward, and he has acquired almost a full command over the muscles of the rectum and bladder. Pills to be continued. Wine to be increased to eight ounces in the day. The pills were regu-

larly taken until the 1st of August, and the patient's amendment appears, from the last report up to this period, to have been progressive. On his discharge, he could walk from one end of the large ward to the other by the aid only of a small stick, and the functions of the bladder and rectum were completely restored.

REMARKS.

This case affords evidence of the remedial efficacy of strychnia in palsy, and points out in a striking manner the *peculiar* action of the alkali upon the paralytic members, since no other remedies, with the exception of a few leeches to the temples, a blister to the nape of the neck, and occasional doses of aperient medicine (on the patient's first admission) were employed. I had my doubts respecting the propriety of administering the alkali in this instance, as there was some reason to fear, from the previous intemperate habits of Ogden, that the hemiplegia was owing to disorganization of the brain; hence I adopted the precaution of relieving the vessels of the head before I commenced with the use of the strychnia. One grain during the day was as much as he could take with safety, for when the dose was increased to a grain and a half daily, very unpleasant effects followed. It would have been improper to have pushed the remedy beyond the limits pointed out by the symptoms. It may be well to notice the *sensation of heat along the course of the spine* more

than once experienced by the patient, and first mentioned by himself, without the question having ever been put to him, as it tends to confirm the opinion before stated, respecting the peculiar action of the strychnia upon the spinal chord.

CASE IV.

JOHN PRINCE, 29 years of age, spinner, admitted an in-patient September 13, 1824, was seized about six months ago with loss of power in the lower extremities, after bathing, whilst the body was much heated with exercise. He is now incapable of motion without the aid of crutches. He passes his urine and fæces involuntarily. The spine is free from pain. His strength is much reduced. Appetite bad. Pulse seventy-two and rather feeble. I directed him to take pil. hydrargyri four grains each night, with a saline aperient on the following morning, for the first ten days. On the 24th, I commenced with the strychnia, in the dose of a sixth of a grain, three times daily. October 4th. The alkali has not produced any effect upon him. Appetite somewhat improved. In other respects he remains in the same state as on his admission. October 10th. Strychnia augmented to the fourth of a grain every fourth hour. 14th. Has experienced severe convulsive twitchings in the affected limbs. He is sensible of an increase of power in his inferior extremities, and wishes to rise and make trial of his crutches. 22d. Is very much

better: strychnia to be taken in the proportion of half a grain three times daily. 4th November. During this interval the alkali has been attended with great benefit. He is now capable of retaining both his urine and fæces, and of walking from one end of the ward to the other with the aid of a small stick. His appetite is good, bowels regular, and spirits cheerful. To continue the alkali. 16th November. He is entirely cured. In order to shew the pupils of the hospital what he could do, he ran from one end of the long gallery to the other. I ordered him to be discharged at the first meeting of the weekly board. I had an opportunity of seeing this patient several times after he left the house, and was glad to find that he continued to enjoy the perfect use of his lower limbs.

CASE V.

BARNARD RILEY, æt. 43, admitted an in-patient November 4, 1824. He was suddenly seized with hemiplegia of the left side, without the occurrence of any premonitory symptoms. The power of voluntary motion, in the affected side, is quite gone, but its sensibility is not much impaired. His speech is almost unintelligible. His mind, however, continues clear. Strength reduced, appetite bad, bowels constive, and urine scanty. Pulse seventy-six, and of moderate strength. He complains of a dull pain in the forehead. I directed cupping at the nape of the

neck to the amount of fourteen ounces, and prescribed purgative medicine. 10th November. Has derived great relief to pain in the head from cupping. He took more than a scruple of calomel, besides several ounces of the common senna mixture of the house, before the bowels were freely opened. The evacuations were dark and highly offensive. A blister was applied to each temple, and a pill, with two grains of calomel and three of the compound extract of colocynth, was ordered to be taken each morning, and to be followed in the course of three hours by a purgative draught. 15th. Blisters rose well, and he now makes no complaint of forehead. The bowels have been freely unloaded. Having succeeded in removing the cerebral disturbance, and procuring a regular action of the intestinal canal, I deemed it safe to commence with the strychnia. He was accordingly directed to take the sixth of a grain of the alkali every fifth hour. The purgative pills were discontinued. 22d. Little change in the symptoms. Dose of strychnia to be increased to the fourth of a grain every fourth hour. 29th. Says that the affected side has been very much twitched, and that he always experiences a prickling sensation in the hands and feet shortly after taking each pill. Thinks there must be something "quick" in them. His bowels are regular without medicine, and his appetite much improved. Pulse eighty-two and soft. To take half a grain of the alkali twice daily. December 9. Feels much better; indeed his im-

provement has been very evident during the last few days. He can raise both his arm and leg, and he articulates more distinctly. 20th. His recovery is rapid. He walked this morning from one ward to another without either crutch or stick. His speech improves daily. To take half a grain of the alkali three times in the day. 28th. I consider him fit to be discharged. He walks well, and moves the left arm with as much freedom as the right. January 10th. The strychnia was continued up to this period, when the cure was rendered complete.

CASE VI.

SARAH HILTON, æt. 36, admitted an in-patient, September 7, 1825.

This woman was seized with a sudden and total loss of power in the right side of the body. The attack was preceded by severe pain at the crown of the head, drowsiness, faulty articulation, torpor, and some other symptoms which are the common precursors of a paralytic attack. It was with difficulty that she could make herself understood, but she afforded evident proof of the perfect possession of her intellectual faculties. She could retain both her fæces and urine. Pulse seventy-six, and of moderate strength. She made no complaint on admission of pain or giddiness in the head. Appetite good, bowels rather costive, person gross and fat. She was ordered five grains of calomel at

bed-time, and three ounces of the purging mixture of the house on the following morning. September 8th, 12 A. M. The bowels have been very freely moved by the pill and draught. The stools are dark and offensive. Pill and draught to be repeated twice in the course of the week. 16th. I now commenced with the strychnia, in the dose of a fourth of a grain every sixth hour. 24th. No alteration in the symptoms. Strychnia pill to be taken each fourth hour. October 2d. The alkali has begun to shew its influence upon the system. The Apothecary informs me that he was called up one evening since the last report by the night nurse to attend Hilton, whom she supposed to be dying. He found her in a state of great alarm. She informed him, that in less than a quarter of an hour after taking the last pill, she was suddenly seized with violent twitchings of the paralytic members, accompanied with nausea and difficult respiration. He very judiciously administered brandy and water plentifully, and ordered a discontinuance of the pills until I had seen her. I visited the patient next morning, when she appeared as well as usual. The use of the strychnia was resumed. 12th. Has experienced no further unpleasant symptoms from the alkali. Is much improved. She can raise both her leg and arm from the bed. Her articulation is more distinct. 22d. Strychnia to be taken in the dose of half a grain three times daily. 28th. Feels much better. To continue the alkali. November 10th. Her

amendment has been very rapid since last report. She raised a small chair from the ground with her right hand this morning, and walked from one end of the ward to the other without a stick. She can chatter now tolerably well; and her husband said jocularly to the nurse, "that he felt convinced she would soon be able to scold as well as ever she had done in her life." Bowels regular, appetite keen; gains flesh and strength. To take half a grain of strychnia four times daily. 16th. I found it necessary to reduce the dose of alkali to half a grain three times in the day, for the additional half grain produced rather alarming symptoms. The patient said that she could very well endure the twitchings and prickling sensations occasioned by the pill taken three times in the day, but they were too much for her when she took the pill four times daily. Her right side is almost as strong as her left. Her countenance is more animated, and her bodily vigour is much increased. She is very desirous of returning home. 28th. I took two medical friends with me this morning to the hospital, to visit Hilton; and after carefully examining her they were unable to ascertain that she had ever laboured under paralysis. I ordered her to be discharged *cured* on the following Monday.

CASE VII.

JOHN BARNES, æt. 48, dyer, was admitted an in-patient, July 12th, 1826.

This patient was suddenly deprived of the use of the left half of the body, on the 10th of February, 1825. He had been subject in early life to great irregularities in his general mode of living. The sense of feeling was nearly gone in the affected side, and he could not raise either his left arm or leg from the bed. His speech was greatly impaired, and his mental faculties were much enfeebled. He discharged his fæces and urine *involuntarily*. Pulse seventy-six, and of moderate strength. Body emaciated, appetite gone, spirits very low. Head free from uneasiness. I directed the sixth of a grain of strychnia to be taken twice daily. 14th. No effect from the alkali. Pill to be given three times daily. 18th. No change. The dose to be increased to the fourth of a grain three times in the day. 24th. The patient has mentioned to the nurse, that his left leg and arm have been severely twitched during the last two days, in about a quarter of an hour after taking each pill. Half a grain to be exhibited twice in the day. 28th. Twitchings of affected limbs have been rather severe since last report, but he finds himself much better, and he now asks for the chamber pan when he wishes to evacuate either the rectum or bladder. He can also slightly raise both the left arm and leg. Appetite

greatly improved. To continue the pills. August 4th. During this interval, the influence of the strychnia upon the system has been diminished, but the patient's improvement has been gradual. Appetite very keen. Dose to be increased to half a grain three times in the day. 10th. He has experienced since last report smart convulsive twitchings in the paralytic limbs, but has not found them unpleasant to bear. He begs to be allowed to continue the pills, for he says that he derives from their use a daily increase of power over the muscles of the paralytic side. He can now retain both his fæces and urine for a short time. To sit up during the day, and to continue the pills. 18th. Surprisingly better. He can not only support himself in the erect posture, but even move from one bed to another with the aid of a small stick in the right hand. His appetite has become so very keen, that I have been under the necessity of restricting him to a certain allowance of food during the twenty-four hours. To continue the pills. September 6th. He can now move the left arm and leg as well as the right, and he has a perfect command over the sphincters of the rectum and bladder: the sense of feeling is quite restored. He has acquired much flesh. I wished him to remain in the house during another fortnight, as I was very desirous of ascertaining whether or not he continued well. Accordingly he was discharged, *cured*, at the expiration of that time.

CASE VIII.

ROBERT HOBSON, 38 years of age, finisher, admitted an in-patient, October 6, 1827.

This is a case of paraplegia, the patient having lost the power over the inferior extremities, rectum, and bladder. He states, that he first perceived about four months ago a weakness in his legs, rendering it necessary for him to use considerable effort to drag them along. This debility gradually increased, until at length he became altogether incapable of moving the lower limbs. He has no feeling in them. Head free from pain or giddiness. Pulse regular, appetite impaired. Being desirous of putting the *individual* efficacy of the strychnia to the test, I commenced with the exhibition of the alkali in the proportion of a sixth of a grain twice daily, without previously employing internal or local remedies of any kind. October 10th. No change. Dose to be increased to the fourth of a grain three times in the day. 20th. He considers himself better, having obtained a slight command over the sphincters of the bladder and rectum. On the 14th, he first experienced involuntary twitchings in the inferior extremities, which have been continued at intervals up to the present time. To take half a grain of the alkali twice daily. 28. He is in excellent spirits, owing to the benefit he has derived from the pills. He can raise the lower limbs to some height from the bed, and also retain at pleasure both his

urine and fæces. During the last week, the twitchings have been rather severe, but not painfully so. He is very desirous of persevering with the pills. To continue. November 7th. Since the last report, the patient has been allowed to sit up for several hours during the day. He is surprisingly improved, being able to walk without the aid of a stick from one end of the long ward to the other. Appetite good. Bowels regular. Warmth and sensibility of inferior extremities natural. Half grain pill to be taken three times daily. 26th. The additional half grain excited for some days powerful twitching in the legs and thighs, but in the course of a week or less they became not more severe than was occasioned by half a grain of the alkali taken twice in the day. He is now capable of walking as well as at any former period of his life, and his general health is excellent. It is impossible to describe the gratitude which this patient felt for his restoration to health. He was ordered to be discharged *cured* at the first meeting of the weekly board.

CASE IX.

JOHN HENDERSON, 42 years of age, spinner, was admitted an in-patient on the 1st of February, 1828.

On his return from the mill, where he worked, he accidentally fell about a fortnight ago down some cellar steps, and struck the lower part of his back vio-

lently against the ground. When attempting to rise, he found that he had entirely lost the power of moving his lower extremities. In this state he was carried home by some persons who chanced to be passing at the time the accident occurred. I saw him on the following morning, and as I considered it a case demanding careful attention, I gave an order for his admission into the infirmary. He complained much of pain in the sacrum. His feet and legs were cold. Bladder and rectum paralyzed. With the view of relieving the pain in the back, I directed ten ounces of blood to be removed from the sacrum by cupping, and a blister to be afterwards applied to that part. February 7th. The pain in the sacrum has been removed by the cupping and blister, but the paralytic symptoms remained unchanged. The strychnia to be given in the dose of a sixth of a grain, twice daily. 14th. No amendment is perceptible. Dose of alkali to be increased to the fourth of a grain twice in the day. 21st. He is sensible of the influence of the medicine, and thinks himself somewhat better, having experienced a slight return of power in the bladder and rectum. 26th. Has more feeling in the paralytic limbs. Appetite improved. Pulse seventy-two, moderately full and firm. To take half a grain of strychnia twice in the day. March 7th. To day, with the assistance of a small stick, he stood upon his legs, and walked from one end of a small ward to the other. He now possesses almost an entire com-

mand over the bladder and rectum, except when he takes aperient medicine. Twitchings of lower limbs have been rather severe. This improvement has greatly elevated his spirits. To continue the pills. 21st. During the last five days, he has walked down the long passage and back again without any assistance. His general health is very good. Pills to be continued. April 4th. He is now quite recovered, and I have accordingly discharged him as *cured*. I saw this patient several times after he left the hospital, and found that he enjoyed perfect health.

CASE X.

MARGARET ROYLE, 17 years of age, was admitted an in-patient on the 3d of April, 1828.

This young woman had only menstruated twice, shortly after her sixteenth year; and it appears from her mother's account, that she imprudently exposed herself to cold when the menses were last present, and since that period she has never been free from ailment. She first perceived a numbness in her lower extremities about eight months ago, which was followed by a gradual inability to move them. She has now neither power nor feeling in them or in the bladder and rectum. No pain in the head. Appetite tolerably good. Pulse seventy-four, of moderate strength. No apparent disease in the skin. I directed her to take, on the following

morning, the eighth of a grain of strychnia, and to continue that dose twice daily. *No other internal or external remedies to be employed.* Has taken her medicine with regularity, but has not as yet derived any benefit from it. Dose to be increased to the sixth of a grain at the same interval. 16th. Is somewhat improved, being able to move her toes occasionally. Says that her legs have been much twitched during the last week. To continue the medicine. 26th. The good effects of the remedy have been very evident since the last report. She can now retain both her fæces and urine, and walk from one bed to another, with the help of a small stick. Her power over the affected limbs increases daily. Fourth of a grain of the alkali to be taken three times in the day. May 10th. She is now in perfect health, and walks as well as any patient in the hospital. To be discharged *cured* at the first meeting of the weekly board. I saw this young woman about four months ago, and had the satisfaction to find that she had not suffered any relapse of her malady.

I shall now state the effects of the strychnia in thirteen other cases of paralysis, but in order to avoid a detail of the history of each, I shall merely mention the *age of the patient, duration of the disease, time of admission into the hospital, dose of alkali employed, length of time it was continued, and result.*

CASE XI.

August 4th, 1825, ELIZABETH TAYLOR, aged 38.

Has been paralytic on the right side for two months. Attack sudden, accompanied with pain in the head. To commence with the eighth of a grain of strychnia twice daily. Gradually increased to half a grain twice in the day. Continued this dose for three months. Discharged cured.

CASE XII.

September 2d, 1825, SARAH WHYATT, aged 53.

Ill six months. Hemiplegia of right side. Fourth of a grain of strychnia to be taken twice daily. Increased to half a grain, at the same intervals. Continued for four months. Discharged relieved.

CASE XIII.

October 4th, 1825, WILLIAM JOHNSON, aged 16.

Paraplegia of six weeks standing. Cause of disease unknown. Sixth of a grain of alkali to be taken twice in the day. Increased to the fourth of a grain. Persevered in its use for two months. Discharged cured.

CASE XIV.

December 30th, 1825, THOMAS GRIFFITHS, aged 61.

About two months ago was seized with hemiplegia of the left side. Former habits intemperate. Head painful. Ten leeches to be applied to temples. Pain in the head removed by leeches. Sixth of a grain of strychnia to be given twice in the day. Increased to half a grain. Continued three months. Discharged relieved.

CASE XV.

January 4th, 1826, ANN LLOYD, aged 42.

Has been paralytic on the left side for more than six months. Commenced with the eighth of a grain of alkali. Increased to half a grain three times daily. Continued four months. Discharged cured.

CASE XVI.

January 15th, 1826, THOMAS KNOTT, aged 50.

Hemiplegia of left side. Experienced the attack about twelve months ago. Sixth of a grain of strychnia to be taken each morning and evening. Increased to a grain and a half during the day. Persevered in the use of the remedy with great regularity for three months. Discharged much relieved.

CASE XVII.

April 2d, 1826, THOMAS OGDEN, aged 40.

Has laboured under paralysis of right side for two months. To commence with the sixth of a grain of alkali twice in the day. Increased to half a grain. Continued two months. Discharged cured.

CASE XVIII.

September 3d, 1826, JOHN LEVERS, aged 46.

Paraplegia of three months continuance, induced by a severe fall upon the sacrum. Sixth of a grain of strychnia twice daily. Increased to half a grain. Remained in the hospital two months. Discharged cured.

CASE XIX.

August 19th, 1826, MARY GRADY, aged 62.

Lost the power of right side four months ago. Fourth of a grain of alkali twice daily. Increased to half a grain. Three months trial of the medicine. Discharged relieved.

CASE XX.

October 6th, 1826, WILLIAM SICKSMITH, aged 39.

Paralytic on right side five months. Fourth of a

grain of strychnia twice daily. Increased to a grain and a half in the course of a day. Discharged cured in less than ten weeks from the time of admission*.

CASE XXI.

December 28th, 1826, ——— JONES, aged 33.

Lost power of right arm about a year and a half ago. Eighth of a grain of strychnia three times in the day. Gradually increased to half a grain twice daily. Two months trial of alkali. Discharged cured.

CASE XXII.

February 4th, 1827, JAMES WILSON, aged 29.

Attacked suddenly in March last with paraplegia after exposure to wet and cold. Dose of strychnia to be increased from sixth of a grain to half a grain twice daily. Used this remedy for one month. Discharged cured.

CASE XXIII.

November 4th, 1827, JAMES TURNER, 48 years of age.

* This man has since experienced an attack of paraplegia, and is now using the strychnia (at his own request) with advantage. March 10th, 1828.

Has laboured under hemiplegia of left side for five weeks. Commenced with the sixth of a grain twice daily. Dose increased to half a grain. Remained two months in the hospital. Discharged cured.

The following table will also shew the results of the exhibition of strychnia in *twelve* more cases of paralysis.

No.	Name.	Age.	Duration of complaint.	Disease.	Result.
24	James Faris, I. P.	29	3 months.	Hemiplegia of left side.	Cured.
25	Charles Walker, I. P.	44	6 months.	Ditto.	Much relieved.
26	Robert Ashton, H. P.	54	2 years.	Paraplegia.	Slightly relieved.
27	Margaret Lewis, O. P.	17	2 months.	Ditto.	Cured.
28	Denis Hagan, H. P.	44	6 weeks.	Hemiplegia of right side.	Much relieved.
29	Henry Black, I. P.	23	3 weeks.	Paraplegia from a fall...	Cured.
30	John Allensworth, O. P.	62	12 months.	Hemiplegia of right side.	No benefit.
31	Isabella Gale, I. P.	33	3 months.	Ditto.	Left the house.
32	David Davis, H. P.	51	3 months.	Hemiplegia of left side.	Much relieved.
33	Jane Shaw, H. P.	19	4 weeks.	Paraplegia from cold...	Cured.
34	Owen Morris, O. P.	54	7 months.	Hemiplegia of left side.	Relieved.
35	Jacob Long, O. P.	49	12 months.	Paraplegia.	Cured.

* The abbreviations, I. P. H. P. and O. P. denote in-patients, home-patients, and out-patients.

OBSERVATIONS

CONNECTED WITH THE FOREGOING CASES.

The above recital of cases is I conceive amply sufficient to shew, that the strychnia excites a very powerful influence upon the system, and that it is entitled to rank as a valuable remedy in the list of articles belonging to the *materia medica*. It was employed in *some* of the cases of paralysis with no benefit, in others with only partial advantage, but in the majority, with complete success; hence it may with justice be considered an *efficacious*, though not a *certain* remedy in this affection. Indeed, it is almost in vain to expect a cure from any of the means supplied by our art, when cerebral disorganization has occurred. “Whenever (as my relative Dr. Bardsley, when speaking of the employment of galvanism in paralysis, has observed) paralysis arises from tumours compressing the substance of the brain, or from a diseased alteration in its mass and structure, or from extravasation of a fluid in such a state or degree as will not admit of its absorption; it will be readily admitted that no benefit is to be expected from the employment of galvanism, or perhaps *any other remedy* yet discovered*.” *It is in such cases of paralysis as seem to arise from diminished nervous excitement, that the strychnia is particularly indicated*†. It may be stated here, as a

* Medical Reports, page 215.

† My learned friend, Dr. Milligan (to whom I take this opportunity of publicly acknowledging my obligations for the en-

rule of guidance, that whenever hemiplegia supervenes to an apoplectic seizure in persons of a plethoric habit, it is proper to employ bleeding, purging, and the ordinary antiphlogistic treatment, before resorting to the use of the strychnia. When the vessels of the head have been freely unloaded, and the quantity and force of the circulating fluid diminished by the above means, there can be little objection to a *cautious* and *prudent* trial of this remedy. Generally speaking, the strychnia is likely to prove more serviceable in paraplegia, unconnected with spinal disease, than in hemiplegia ; though I feel confident, that it will not unfrequently be found an important remedial agent even in hemiplegic paralysis. My experience with this substance has been confined *entirely* to adults, for I have not deemed it prudent to administer so powerful a medicine to children, nor should I advise the attempt. In the above cases, I have endeavoured, in as far as the circumstances of each would allow, to observe simplicity of prescription, being convinced that it is next to impossible to decide upon the remedial virtues of any individual substance, when the practice is complex. In several instances it

couragement he has kindly given me in my present undertaking), has expressed to me his doubts of the correctness of this doctrine, for he states that there are several cases on record, where the person has recovered the use of his limbs under such disorganization (See, e. g. in Abercrombie's *Path : Brain*, p. 263-4), an instance of a man recovering three or four times. Chardel, Louis, and others, have collected similar examples.

will be found, that the strychnia *alone* was exhibited (excepting, perhaps, an occasional dose of aperient medicine), and its efficacy was most decided. The first effects of the alkali, *in every case*, were *convulsive twitchings* of the paralytic members, and no benefit was derived until this condition of the parts had been produced, and continued for some time. In more than one of the instances of paralysis treated by Dr. Manson with iodine, the exhibition of that remedy seems to have been attended with a similar result. Thus, in the case of Elizabeth Spooner, we have the following report of the 23d February; "I find that on the 16th instant she was very much troubled with twitchings and involuntary shaking of the left hand previous to its being in a great measure restored. She can now open and shut the hand freely, and raise it as high as the crown of the head." In the case, too, of Charles Battersby, the report of the 2d November states, that "he has more twitching and pain in the paralytic parts since the 31st ultimo, than hitherto. Has more feeling in them, and has been able for the first time to raise the left thigh to a right angle with the body *." In Dr. Alderson's experiments, too, with the rhus toxicodendron in paralysis, twitchings and tingling sensations in the paralytic members, appear to have been the first steps towards recovery. Strychnia possesses an advantage over some other internal remedies, for it does not impair the energy

* Manson on Iodine, p. 125, 136.

of the stomach, but is rather serviceable in promoting appetite and digestion. This was very evident in several of the cases I have detailed. When it is decided upon to administer the strychnia, it is proper to commence with a proportion not greater than the eighth of a grain twice in the day. This quantity may be gradually increased to the sixth, fourth, or even half of a grain at the same intervals. The first effects of the remedy must be carefully noticed, and should symptoms of an unpleasant nature occur, it must be *immediately* suspended. After a short time its use may be resumed, and continued, in slowly augmented doses, so long as the judgment of the practitioner may approve. By attention to these points, although no benefit may accrue from the strychnia, we may be sure that no injury will attend its exhibition. I have generally administered it as a pill, with a little conserve of roses, and in this form it has been most agreeable to the generality of patients *. I shall now relate a few cases illustrative of my trials with the strychnia in chronic diarrhoea.

* Within the last two months I have discharged three paralytic patients cured, to whom strychnia *alone* was exhibited. August 1828.

ON THE
MEDICINAL PROPERTIES OF STRYCHNIA
IN
CHRONIC DIARRHŒA.

CASES OF CHRONIC DIARRHŒA TREATED WITH
STRYCHNIA.

NUMEROUS instances of chronic diarrhœa occur in the class of out-patients of the Manchester Infirmary, some of which obstinately resist almost every variety of treatment adopted for their cure. Having been unable, in several instances, by the aid of the remedies usually employed in this affection, to check the unnaturally loose state of the bowels, I was induced to administer the strychnia, and it proved a *safe and effectual* remedy. With the view of calling the attention of practitioners to this medicine in chronic diarrhœa, I have deemed it proper to publish the followiug cases. Since they were prepared for the press, I find that M. Recamier has also exhibited the alcoholic extract of the nux vomica with complete success, in a case of chronic diarrhœa, after the ineffectual employment of calumba, sima-

rouba, charcoal, &c.* Dr. Rummel has employed strychnia with advantage in chronic blenorrhœa of the rectum ; and Dr. Graves, on his authority, has also used this substance in one instance of that affection with success : “one twelfth of a grain of strychnia (he observes) given in the form of a pill twice a day, completed the cure in about three weeks †.

CASE I.

SARAH WRIGHT, 49 years of age, admitted an out-patient 25th November, 1825.

She had laboured under diarrhœa, without pain of the bowels, for more than five months. The evacuations were fluid, but quite natural, excepting in consistence. She was much emaciated and very feeble. Appetite impaired ; pulse sixty-five, and weak. She could not assign any cause for her complaint. She stated that she had made trial of various remedies, but with little or no benefit. Considering this loose state of the bowels to be owing rather to languor and relaxation, than morbid irritability, I determined upon the exhibition of the strychnia, commencing with the sixth of a grain in the form of pill twice daily. 4th December. She

* La Clinique, tom. iii, No. 5.

† Dublin Hospital Reports, vol. iv, p. 49.

imagines that she has already experienced relief from the pills. To continue. 11th. Her improvement, during the last week, has been striking. She has not had more than three evacuations in the twenty-four hours ; and her appetite is better. Dose of alkali to be increased to the fourth of a grain morning and evening. 18th. No unpleasant symptoms from the medicine. Continues to improve. To persevere with the pills. 25th. The bowels are brought into nearly a natural state, her appetite and strength are considerably improved, and she has gained some flesh. To continue. 7th January 1826. She is so well as to be desirous of relinquishing the further use of medicine. I accordingly ordered her to be discharged *cured*. This woman had a relapse of her complaint, in the course of a few months afterwards, but she was again restored to health by the same plan of treatment ; and I have not since received any further report.

CASE II.

MARY NUTTALL, 60 years of age, admitted an out-patient, January 4th, 1826.

This woman had been affected with looseness of the bowels for more than three months. She had sometimes eight or nine stools in the twenty-four hours, but they were of a natural colour. She had lost much flesh, and her bodily strength was greatly

impaired. I first employed opium internally, and as an injection, sulphate of zinc, catechu, chalk, and eight grain doses of Dover's powder, two or three times in the day, but without permanent benefit. Encouraged by my success with the strychnia on a former occasion, I resolved upon giving it a trial in the present instance. I directed her to take the sixth of a grain of the alkali three times daily, and to omit her other remedies. January 10th. She has not, as yet, derived any relief from the strychnia. No disagreeable effects from the medicine. Dose to be increased to the fourth of a grain, at the same intervals. 18th. She considers herself much better, having had a less frequent desire to evacuate the bowels; says that her appetite is keen, and that she is stronger. To continue. 28th. She is now free from ailment. Since the 24th, she has not had more than two stools daily. Her general appearance, appetite, and strength are evidently improved. I wished her to persevere with the remedy for a short time longer, in order to be certain of her complete restoration to health. February 14th. She has persisted in the use of the strychnia with regularity since the last report, and the bowels are now rather confined than loose. I accordingly discharged her *cured*.

CASE III.

JOHN NEARY, 55 years of age, admitted an outpatient, March 16th, 1826.

He had been formerly addicted to the intemperate use of spirituous liquors, but of late years his habits have been regular and sober. He complained of a frequent desire to go to stool, having not less than five or six evacuations daily, and his strength had declined during the last month very rapidly. His appetite was impaired, and he had copious perspirations in the night. He attributed his complaint to exposure to wet and cold in January last. He had tried several remedies, but without benefit. The ordinary astringents were unsuccessfully administered. I then commenced with the strychnia, which succeeded, as the reports will shew, in speedily restoring the patient's health. He began on the 18th, with the sixth of a grain of the alkali, night and morning, which was increased to the fourth of a grain three times a day. On the 10th of April he had not more than two stools daily. His appetite was better, and he had gained strength. He continued this plan of treatment until the 24th, when he was discharged cured. I saw this man about a year afterwards, and he informed me that he had not suffered any relapse of his disorder.

CASE IV.

ELIZABETH TEALE, 58 years of age, admitted as an out-patient, April 16th, 1826.

She had been troubled with a distressing diarrhœa during the last four months, for the removal of which, a variety of treatment had been adopted, with little or no advantage. She had generally seven or eight motions in the twenty-four hours. She commenced with the sixth of a grain of strychnia, three times daily, and then increased the dose to the fourth of a grain, at the same intervals. The diarrhœa was considerably relieved in less than ten days from the first trial of the alkali. On the 12th of May, she reported herself free from ailment. I ordered her to continue the medicine a short time longer, in order to satisfy myself that the cure was complete. She was discharged on the 22d.

CASE V.

DANIEL TURNER, 58 years of age, was admitted an out-patient, January 2, 1827.

He had been subject to a loose state of the bowels for twelve months, but the diarrhœa had become more urgent during the last three weeks. He was pale, much emaciated, and very feeble, having lost all relish for food. I directed him to take the sixth of a grain of strychnia, three times

daily. The report in the Journal of the 14th says, that "he has derived great relief from the alkali, and is very desirous of giving it a further trial." The dose was increased to the fourth of a grain at the same intervals. On the 4th of February, the bowels had become quite natural; and on the 16th, *without the aid of any other remedy*, he was discharged cured.

CASE VI.

CHARLES SHAW, aged 61, admitted an out-patient, April 16, 1827.

He was in a very dejected state of mind, arising from pecuniary losses, having once held a highly respectable situation in life. He stated, that during the last six months his bowels had been unnaturally loose, and that this frequent alvine discharge had destroyed his appetite, and greatly reduced both his bulk and strength. He had been for some weeks under the care of a surgeon in Glasgow, whose advice had been serviceable to him, but on his arrival in Manchester, it appears that his complaint returned with its former severity. Feeling considerable interest in this case, I resolved to give the strychnia a fair trial, without previously exhibiting any kind of medicine. He was accordingly directed to take the sixth of a grain of the alkali, three times a day. 28th. He has already derived

benefit from the medicine. The bowels are less frequently moved; and his appetite is better. Dose to be increased to the fourth of a grain, three times daily. May 13. His strength is much improved, and he is not called upon to go to stool more than twice in the twenty-four hours. Strychnia to be continued. 26th. The tone of the bowels is now completely restored, and his general health is very good. Discharged cured.

REMARKS.

There cannot, I conceive, be room for doubt, that in the foregoing cases very remarkable benefit was derived from the strychnia, even after the failure of other valuable medicines. I do not consider the strychnia a suitable remedy in those instances of diarrhœa, which depend upon an evident inflammatory condition of the mucous membrane of the intestines, but I more particularly recommend it in cases of a *chronic kind*, occurring in persons somewhat advanced in life, and of feeble constitution.

It may be proper to state, that it is not my wish to propose strychnia as a remedy in this form of diarrhœa to the exclusion of those sedative, diaphoretic, tonic, and astringent medicines, whose utility has been confirmed by long experience; but merely as deserving of attention when they have been unsuccessfully tried.

The strychnia also exerts a beneficial action upon

the stomach by restoring its tone and powers of digestion*. My intelligent friend, the late Dr. Dewar, after noticing the employment of opium, catechu, kino, alum, ipecacuanha, sulphate of zinc, chalk, and hæmatoxylon in diarrhœa, remarks, that “no one of those astringents has been found remarkably preferable to the rest. They are all of them often effectual, and all of them are liable to fail†.” It is in such obstinate cases as these that the aid of strychnia may be advantageously solicited.

* It is probable, that this is the manner in which it proves useful in *chronic diarrhœa*, for its effects are too slow to be supposed to operate in the way of other remedies in that disease.

† Observations on Diarrhœa and Dysentery, p. 60 and 61.

ON THE
MEDICINAL PROPERTIES OF STRYCHNIA
IN
AMENORRHŒA.

CASES OF AMENORRHŒA TREATED WITH
STRYCHNIA.

As amenorrhœa is a frequent source of several of the most troublesome affections to which females are liable, it is of importance to be able to name any new remedy which will be found occasionally serviceable in promoting a regular and natural flow of the catamenia. Previously to my experiments with the strychnia in this disease, I had been in the habit of employing aloes more extensively than any other medicine; and I can add my testimony to that of the venerable Dr. Hamilton, in favour of the utility of purgatives in exciting the action of the uterine vessels. In many cases, I have succeeded in obtaining a renewal of the menstrual discharge, by a steady but active administration of the aloetic pill *alone*.

It is foreign to my purpose to enter upon an inquiry into the *causes* and *consequences* of amenor-

rhœa, as my principal object is to state facts; I shall therefore proceed to illustrate the successful administration of strychnia in my hands, in some instances of *suppressed* menstruation.

CASE I.

PHŒBE LOWE, 33 years of age, unmarried, admitted an out-patient, June 4th, 1825.

She stated that she had not menstruated during the last five months. She attributed the obstruction of the menses to cold. She was languid and weak. Her appetite was impaired, countenance pallid, and strength diminished. Bowels rather costive. Pulse eighty-two. Tongue white. Having brought the bowels into a natural state, by the exhibition of purgatives, I commenced with the sixth of a grain of strychnia, three times in the day. June 16. She has not as yet derived any benefit from the alkali. Dose to be increased to the fourth of a grain at the same intervals. July 12th. Her general health is much improved, and her appetite is better. She has experienced rather painful sensations in the hypogastric region, during the last few days. To continue. 24th. The menses have appeared in small quantity since the last report. The uneasiness in the hypogastrium has left her. To continue. 30th. She improves in health daily, and is anxious to follow her usual employment in the cotton factory. Her appetite is very good, coun-

tenance more lively, and strength greatly increased. I desired her to suspend the further use of the medicine, giving her a strict charge to call at the Dispensary, and to inform me if the catamenia had become regular. Agreeably to my request, she attended on the 14th of October, and said that she had menstruated twice rather copiously since she saw me. Discharged cured. This woman married shortly afterwards, and is now the mother of two children.

CASE II.

ANN GILLDIKE, aged 30 years, unmarried, admitted an out-patient, 24th February, 1825.

This woman had imprudently exposed herself to wet and cold for several hours, when the menses were last present, and they have not since returned. Her complaint is of six months duration. Countenance pale, body emaciated, appetite impaired, bowels natural. She stated that she had been under medical treatment for more than four months, but had not derived any benefit from the remedies employed. I immediately commenced with the sixth of a grain of strychnia three times daily. March 14th. No change in her symptoms. Dose of alkali to be increased to the fourth of a grain, at the same intervals. 29th. She finds herself considerably better, and, judging from her present feelings, thinks that the catamenia will shortly appear. Bowels regular,

spirits cheerful. To continue. There was a slight uterine discharge on the evening of the 21st, but it ceased early on the following morning. Her looks and general health are surprisingly improved. To take half a grain of the alkali twice daily. May 24th. On the 18th the catamenia appeared, and continued until the 22d. Their colour and quantity were perfectly natural. She makes no complaint but of debility. To persevere with the strychnia in the dose of a fourth of a grain three times daily. She attended at the Infirmary on the 6th of July, and mentioned that the menses had occurred at the usual time, and that she felt herself as well as at any former period of her life. She was discharged cured. This patient has continued well ever since.

CASE III.

ANN BOWCOCK, 36 years of age, admitted an out-patient January 4th, 1827.

This patient's health had suffered for the last two years, from great irregularity in the quantity, quality, and duration of the catamenia. It is more than three months since they were present. She was weak and languid; her countenance was pale and appetite impaired. Spirits very low. Pulse seventy-six, feeble but regular. Bowels costive. Some mild laxatives, to unload the intestines, were first exhibited, and then the strychnia was prescribed in the dose of a sixth of a grain three times

daily. In the course of three weeks, the proportion was increased to the fourth of a grain, at the same intervals. She persisted in the use of the alkali, in this dose, for a fortnight, when it was augmented to half a grain twice a day. In less than ten days after the employment of the strychnia, in this proportion, the menses appeared in small quantity. Her health was better than it had been for many months. Encouraged by the benefit thus derived from the medicine, she wished to persevere with it for some time longer. I now diminished the dose to the fourth of a grain three times in the day. She kept her bowels in a regular state, by taking occasionally some castor oil. The catamenia appeared at the time expected, and were perfectly natural, both in regard to quantity and colour. She was discharged cured. This patient again came under my care ten months afterwards, labouring under an attack of pneumonia, when she stated that she had not experienced any irregularity in the menstrual discharge since her last attendance at the Dispensary.

CASE IV.

JANE NARHANY, 35 years of age, admitted an out-patient June 4th, 1827.

She had enjoyed a tolerably good state of health until last March, when, owing to exposure to cold, the menses disappeared, and since that period she

has never been altogether well. She complained of pain in the head, and great bodily debility. Her appetite was nearly gone; countenance pale; pulse seventy-two, and feeble. She had taken several remedies (of the nature of which she was ignorant), under the direction of a surgeon in the town, without benefit. She commenced with the sixth of a grain of strychnia every eighth hour, and continued this proportion until the 24th, when it was increased to the fourth of a grain every sixth hour. Her bowels were regular, without aperients. July 10th. Says that during the last few days she has felt shooting pains in the lower part of the abdomen, accompanied with nausea and griping in the bowels. Her appetite is improved. To continue the alkali. 26th. No inconvenience from medicine. Strength much increased. Mind cheerful. Strychnia to be taken in the dose of half a grain twice in the day. August 16th. The catamenia appeared early on the morning of the 9th, without any previous indisposition or pain, and continued for three days. Her strength is much recruited. To persevere with the strychnia, in the proportion of a fourth of a grain three times daily. September 14th. Catamenia returned at the regular period, and were natural both as to quantity and appearance. They were preceded by nausea and considerable pain in the hypogastrium. She was desirous of making further trial of the medicine, as it agreed well with her stomach, and had been highly beneficial to her. She at-

tended at the infirmary on the 16th of October, and mentioned that she had again menstruated at the proper time, and was in the enjoyment of perfect health. She was discharged cured. This woman has since married, and is now in a pregnant state.

A TABULAR ACCOUNT OF EIGHT OTHER CASES OF
AMENORRHŒA TREATED WITH STRYCHNIA.

No.	Name.	Age.	Duration of Complaint.	Result.
1	Mary Holfroys.....	44	9 months.....	Cured.
2	Margaret Cain.....	29	5 months.....	Ditto.
3	Sarah Hooley	24	12 months.....	Ditto.
4	Jane Marsden	40	4 months.....	Ditto.
5	Mary Ferguson	19	6 months.....	Ditto.
6	Elizabeth M ^c Avoy	35	Ditto	Relieved.
7	Jane Wragg	38	18 months.....	Cured.
8	Elizabeth Corr.....	29	2 years	Relieved.

The above cases appear to me sufficient to shew the remedial virtue of strychnia, in some instances of amenorrhœa. This is in a great measure owing to the power which the alkali possesses of stimulating the vessels of the uterus, and of improving the *tone* and *vigour* of the system. I have remarked a confirmation of this fact in two or three instances of females, with whom the menses have returned during the use of the strychnia, even after they had

disappeared for more than a year and a half. I should advise the *conjoint exhibition* of mild laxatives with the alkali in this affection, when the bowels, as is most commonly the case, are constipated.

I shall embrace every opportunity of bringing to the test of further experience the real utility of strychnia in amenorrhœa, and I have reason to hope that my already successful trials with this remedy will be confirmed by the event of others.

Such are the results of my experiments with strychnia, which are calculated to set forth the *real* claims of this alkali to the notice of the profession, as a remedy in certain diseased conditions of the system. I think that I may venture to draw from them the two following conclusions. First, that strychnia, *cautiously administered*, is a safe and useful remedy in paralysis. Secondly, that it will *occasionally* be found serviceable in *chronic diarrhœa* and *amenorrhœa*.

ON THE
MEDICINAL PROPERTIES OF BRUCIA
IN
PARALYSIS.

THIS alkali, it has been before remarked, was detected by Pelletier and Caventou, together with strychnia, in the nux vomica. These chemists also procured it from the bark of the pseudo-angustura (or false angustura) which grows in South America. This bark has been confounded by some writers with that of the *Brucea ferruginea**, but it is now satisfactorily proved, that they are obtained from different plants. “La fausse angusture” (says Richard), “est très-différente de l’écorce du *brucea ferruginea*, que Bruce a vu employer avec succès contre le diarrhée.—C’est une substance extrêmement vénéneuse, qui, à des doses même très-faibles, peut occasioner les accidens les plus graves et même la mort, ainsi que le prouvent le grand nombre d’ex-

* This is Persoon’s name for the tree, but Duncan, Miller, and most English writers, still continue to denominate it the “*Brucea antidysenterica*.”

periences faites par plusieurs auteurs de toxicologie, et particulièrement par M. Orfila, qui en deduit les consequences suivantes : 1. La poudre de fausse angusture, et ses diverses préparations agissent comme la noix vomique et les autres strychnos : 2. La matiere jaune amère parait etre la partie la plus active*." Besides brucia, the other components of the false angustura, according to the same analysis, are, *a fatty matter not poisonous; a considerable quantity of gum; a yellow substance soluble both in water and alcohol; and some traces of sugar and lignin.* Dr. Kinglake, in a paper published in the 17th volume of the Medical and Physical Journal, has alluded to a poisonous species of angustura bark having been sold by the druggists at Taunton, in 1807. "In five instances within these three years," he observes, "a drug sold in this town for angustura bark, and administered as such to four different persons, evidently produced the most distressing effects. In four of the instances alluded to, an approach to syncope, accompanied with more or less of universal tremor and spasmodic twitchings, are said to have occurred. In the fifth instance referred to, it was exhibited in a case of low remittent fever, and was speedily followed by effects similar to those which presented in the other instances. On this

* Botanique Medicale, deuxieme partie, p. 603. At page 348 of his Toxicology, tome ii, Orfila has detailed his experiments with the Angustura pseudo-ferruginea, showing its deleterious action on the animal economy.

occasion, however, death ensued ; but whether that event be justly attributed to the influence of the medicine or that of the disease, is doubtful. In each of the other instances the patients suffered severely from the ailments induced during some hours, and its hurtful effects endured several days." It is highly probable that the noxious kind of bark noticed by Dr. Kinglake was obtained from the pseudo-angustura, and introduced into the market instead of the *Bonplandia trifoliata* ; and this conjecture is in some measure strengthened by the subsequent discovery of a deleterious substance in the former species. For an account of the mode of preparing brucia, the same works may be consulted to which I have referred when speaking of strychnia. Brucia exerts a similar action on the animal economy to strychnia, but it is much less powerful. It appears from the experiments of M. Andral, that the quarter of a grain of pure strychnia equals in energy six grains of brucia. Pelletier and Caventou, in their valuable memoir upon a new salifiable base obtained from the false angustura, make the following observations: " Our trials of the action of brucine upon the animal economy have not been numerous, but they are sufficient to prove that its mode of action is analogous to that produced by strychnia, under the same circumstances. Thus it occasions violent tetanic attacks, and like strychnia, acts upon the nerves without attacking the brain or affecting the intellectual faculties ; but it is less energetic ; its in-

tensity being to that of strychnia as one to twelve. Four grains of brucine were required to kill a rabbit. A tolerably strong dog having taken three grains of brucine experienced some severe attacks of tetanus, but recovered*." I shall now detail my experiments with this alkali as a remedy in palsy, leaving it to future experience to determine the rank which it is destined to hold as a curative agent in that distressing malady.

CASE I.

JOSEPH ANDREWS, 36 years of age, a weaver.

He had laboured under hemiplegia of the right side for six months. At the time of admission, he complained of entire loss of power, and partial diminution of feeling in the right upper and lower extremity. The head was by no means free from pain, but the mental faculties did not seem to be impaired. Speech so much injured as to be almost unintelligible. Urine and fæces involuntarily discharged. Countenance full and plump. No emaciation of body. Appetite rather keen. Sleeps tolerably well, pulse seventy-six, of moderate strength. The patient says, that the attack occurred rather suddenly, but that he had experienced a sense of weight and pain in the head for some months previously to its occurrence. By his own account, he

* Journal de Pharmacie, tome v, p. 544.

has never been addicted to excess in spirituous liquors, or any great irregularity in his general mode of living. Twelve ounces of blood were ordered to be removed from the nape of the neck by cupping; two ounces of senna mixture to be exhibited immediately, and repeated as the state of the bowels might render necessary. August 18th. Head feels lighter and more comfortable since the loss of the blood, bowels freely moved by draught, and are now regular without the aid of medicine. He was directed to take one grain of brucia in the form of pill night and morning. 20th. No effect at present from pill. Let it be taken in the same proportion three times in the day. 24th. Does not seem to be at all affected by the alkali. Bowels have become confined. Opening draught to be repeated. 26th. No twitchings of the extremities at present. Pill to be taken four times in the course of the day. A scruple of the compound purging powder of the house to be given immediately. 31st. Says that the affected leg and arm have been twitched considerably during the last two nights, almost leading him to suppose that something was alive in them. Bowels moved by powder. Appetite quite voracious. Two grains of brucia to be used night and morning, and its effects to be carefully observed. 3d September. His right leg is at times forcibly moved in bed without any effort on his part. He imagines that he has already more power in the paralytic side than on admission. Bowels rather

confined. Pills to be continued, and purging powder to be repeated. 6th. Complains now of frequent convulsive twitchings in paralytic members, which occur mostly in less than an hour after taking the pills. Last night he was suddenly seized with sickness, vertigo, palpitation, and griping in the bowels, so that the pill was omitted. This morning he seems quite as well as usual. The pills to be continued. 9th. Is now capable of raising his right leg in bed and of extending the right arm. Head continues free from disturbance. Two grain pill to be taken three times in the day. 12th. Action of the alkali continues to increase. He is much improved, and is now sitting up in bed. He can point his foot, and almost support himself in the erect position with only the aid of his stick. Pill to be taken four times in the day. 15th. Twitchings are now very severe. By gently elevating the heel from the bed, the leg is immediately drawn up towards the thigh. This morning, with his stick in his hand, he made a shift to reach the bed of a fellow-patient. Pill to be taken five times daily. 20th. The two grain pill could not be continued five times in the day, as it produced considerable cerebral disturbance. October 1st. The exhibition of eight grains daily has been continued since the last report, and the patient has gradually acquired an increase of power over the muscles of the affected limbs. His speech continues rather indistinct, and he states that he has experienced some threatening of a re-

turn of pain in the head. Cupping to the amount of eight ounces to be immediately adopted. Pills to be continued. Appetite excellent. Looks cheerful, and has rather gained than lost flesh. 7th. Improves slowly. Pills taken regularly with an evident powerful influence on the nervous system. Epigastrium has been slightly painful after eating, and also on pressure, during the last two days. Eight leeches to be applied to the seat of pain. To continue the pills. 12th. The patient is so far recovered as to be able to pass from one bed to another. He was directed to exert the paralytic members, for exercise seems to assist the action of the remedy in promoting a restoration of muscular power. Pills to be continued. 17th. Much the same as at last report. The pills still manifest their influence on the system by the continuance of the twitchings in the affected members. He experienced rather a severe fall on the face yesterday by losing his balance in attempting to cross the ward. His general health is much improved. 2d November. During this interval, he has rapidly improved, having obtained nearly a complete return of power and feeling in the right side. As he was anxious to leave the hospital, I directed him to be made an out-patient, with orders to attend at the Dispensary once in the week. The last report entered into my case-book states, "that Andrews was discharged cured on the 24th November; and that he was able to follow his usual employment of weaving."

REMARKS.

In this case, the pain in the head at first complained of by the patient, demanded for its removal the abstraction of some blood from the neighbourhood of the sensorium, before commencing with the alkali. The action of this substance on the system was analogous to that produced by the strychnia, though much milder, for he was capable of taking eight grains daily without inconvenience. Shortly after the occurrence of convulsive twichings in the paralytic limbs, marking the influence of the remedy upon the system, an evident improvement took place, which was progressive, until the patient's health was completely restored.

CASE II.

MARY NEEDHAM, aged 47, admitted an in-patient, April 11th, 1825.

She has lost all power in the right upper and lower extremities, and passes her stools and urine involuntarily. She had experienced occasional pain in the forehead with giddiness, for more than a year previously to the paralytic seizure, which occurred about six months ago. Her strength and appetite are greatly impaired. Bowels at present open, but generally rather confined. *Applic. temporibus hirudines xiv, et postea emplastrum lyttæ collo poste-*

riori. 18th. Her head is quite free from any uneasiness.

℞ Bruciæ ℥ij.

Conservæ rosarum q. s.

Misce, et divide in pilulas xx æquales.

Capiat duas mane et vesperi.

24th. Has no command over the paralytic members. She is not as yet sensible of any influence of the medicine. Complains much of debility. Bowels costive. Sumat pilulas duas ter quotidie, et cras, primo mane, haustum olei ricini. 2d May. Paralytic symptoms unchanged. Bowels freely opened by draught. Capiat pilulas duas, quater in die. 10th. She experienced on the 8th prickling sensations in the affected limbs, which were in a short time succeeded by convulsive twitchings in them. She considers herself better. The nurse informs me, that during the last three days she has on several occasions asked for the bed-pan when she wished to evacuate either the bladder or rectum. She is very anxious to sit up for a few hours each day. Continuentur pilulæ. 20th. She has improved considerably since last report. She can now support herself in the erect posture with the aid of a stick. The pills agree very well with the stomach, and her appetite is much better. Bowels regular without medicine. Continr. pilulæ. 3d June. She can now move both the right arm and leg tolerably well, and retain her fæces and urine for some time. Her general health is excellent, and her spirits are greatly

elevated, owing to the favourable change which has taken place in her symptoms. 'Continr. pilulæ. 18th She is very much better, being able to walk without her stick from one end of the ward to the other, and she possesses a due command over the muscles of the rectum and bladder. Bowels regular. July 6th. I met her upon the stairs at my visit this morning, and she returned into her ward with as much facility as myself. She has acquired both flesh and strength daily. Appetite very keen. She was ordered to be discharged cured on the following Monday.

CASE III.

JAMES ENGLISH, aged 47, admitted an out-patient, June 16th, 1825.

About three months ago he was suddenly deprived both of power and feeling in the left side. The attack was preceded by pain in the back part of the head, drowsiness, and faulty articulation. Bowels costive, appetite moderate, pulse eighty-four. Says, that whilst under the care of a surgeon in the town, he was twice bled from the arm, and twenty ounces of blood were removed from the nape of the neck by cupping, with relief to headach, but the paralytic symptoms remained the same. I directed him to commence with a grain and a half of brucia in the form of pill, three times daily. July 2d. During this interval, owing to the torpid state of the

bowels, it has been necessary to exhibit almost daily very active purgatives. No alteration for the better has as yet occurred. To take two grains of the alkali thrice daily. July 18th. Feels better. Yesterday he experienced shooting pains in the paralytic members. His speech is much more distinct. To continue the pills. July 29th. The patient has much greater firmness and power in the paralytic members. During the last few days, the convulsive twitchings have occasionally been very severe. Spirits cheerful. Appetite good. To take two grains of the alkali four times in the day. August 10th. His amendment since the last report has been progressive. He walks slowly with the aid of his stick from one bed to another, and has more feeling in the affected limbs. Bowels regular. General health greatly improved. To continue the pills. 26th. He now possesses almost a natural degree of power in the left side, and his speech is clear and distinct. His appetite is very good, he has increased in bulk, and his looks indicate a return of bodily vigour. To continue. September 14th. He is in the enjoyment of *perfect health*, and walks well without aid. He was ordered to be discharged cured on the following Monday.

CASE IV.

JOSEPH PARTINGTON, aged 43, admitted an in-patient September 4th, 1826, weaver.

This was a case of paraplegia, supervening to a fall from a cart upon the sacrum. The accident occurred about two months previously to his admission into the hospital. Sensation and all power of motion in the lower extremities were entirely gone, and the bladder and rectum were paralyzed. He had no pain in the head. Appetite tolerably good. Pulse seventy-six, and of moderate strength. Being desirous of trying with this patient the *individual* efficacy of brucia, I merely directed the bowels to be gently opened, and then commenced with two grains of the alkali, in the form of pill, twice daily. 14th. No amendment at present in the paralytic symptoms. The pills to be taken three times in the day. 21st. He feels better, having rather more command over the bladder and rectum, and being now capable of gently moving the feet and toes. To continue the pills four times in the day. 6th October. During the last week, he has experienced rather sharp convulsive twitchings in the affected limbs, which on their first occurrence gave him much uneasiness. He is so far recovered as to be able with the assistance of crutches to stand upon his legs, and he can retain for a short time both his fæces and urine. To continue the pills. 24th. He now walks without any assistance, and possesses a complete return of power in the bladder and rectum. He acquires both flesh and strength daily; and thinks himself sufficiently well to return home. I wished him, however, to remain in the house ano-

ther fortnight, at the expiration of which time he was discharged cured.

CASE V.

EDWARD SHACKLETON, aged 41, admitted a home-patient December 4th, 1826, carter.

This patient had experienced for several months a sense of numbness in his feet and legs, which ended in complete paraplegia. The lower extremities were cold, and his fæces and urine were passed involuntarily. Appetite said to be much impaired. Head free from pain. He had been a remarkably stout man, and can assign no other reason for his present ailment than frequent exposure to wet and cold. I commenced the treatment with the exhibition of a grain and a half of brucia twice daily. 16th. No improvement as yet perceptible. Bowels open. To take two grains of the alkali three times in the day. January 10th, 1827. He is much improved since the last report. He has felt, during the last two days, a tingling sensation in the thighs and legs, in about half an hour after taking each pill. To continue the use of the alkali in the same proportions. 26th. He can now stand erect, and by the aid of crutches walk from one ward to another. Appetite better. Pills to be taken four times daily. February 16th. Has much greater power over the rectum, bladder, and inferior extremities. The prickling sensations have been more severe since the dose

of the brucia was increased. To continue the pills. March 10th. During this interval, he has improved considerably in strength. He can walk steadily and firmly, and retain both his fæces and urine several hours. Appetite excellent. Pills to be continued. 24th. He appears to be in perfect health. He was accordingly discharged cured.

CASE VI.

JOHN BULLER, aged 43, admitted an in-patient the 10th of February, 1827, shoemaker.

He first perceived, about six months ago, a diminution of power and feeling in his left arm, which gradually increased, until at length he became altogether incapable of following his employment. His general health is very good, and he has the perfect use of every other part of the body. At present, he cannot hold any thing in his left hand, or produce the least movement with his fingers. The arm is considerably wasted. Bowels regular, pulse eighty-two, and of moderate strength. He is unable to account for this attack. I began with the brucia in grain doses, three times daily, at the same time directing his bowels to be freely evacuated by the aid of the common purging mixture of the hospital. 26th. No change in the paralytic arm. To take two grains of the alkali three times daily. March 8th. The brucia has produced very beneficial effects upon the paralytic limb. During the last few days

he has experienced twitching sensations in the affected arm. Two grain pill to be taken four times daily. 24th. He has regained the power of moving his fingers, and of opening and closing the hand with a moderate firmness. He can also raise the affected arm to his head. To continue the pills. April 10th. He has rapidly improved since the last report. At this visit I found him at dinner. He held his fork in his left hand, which he appeared to use almost as well as the right. He requested my permission to leave the house, as he felt anxious to follow his ordinary employment. I accordingly made him an out-patient. He attended at the infirmary for about three weeks, when he was discharged cured. I saw this patient some months afterwards, and was glad to find that he remained perfectly well.

CASE VII.

JOHN PRESTON, admitted an out-patient November 16th, 1826.

Was seized with hemiplegia of left side six months ago. Had been bled from the arm, blistered, and freely purged. Commenced with a grain of brucia three times daily. Dose was gradually increased to two grains four times in the day. After making trial of the alkali for two months, he was discharged relieved.

CASE VIII.

SARAH HARDMAN, aged 40, admitted a home-patient January 16th, 1826. Duration of disease four months.

Lost the use of her lower limbs after exposure to damp and cold. Has been blistered on the sacrum, and galvanized, but without benefit. I directed her to commence with the same proportion of brucia as was employed in the preceding case. The dose was increased to eight grains, taken at regular intervals during the day, and continued for ten weeks, when she was discharged cured.

CASE IX.

GEORGE PIPLES, 21 years of age, admitted a home-patient June 4th, 1827.

About a fortnight ago, he suddenly lost the power of the right side of the body. Has not used any medicines, except some calomel powders to open the bowels. Brucia to be taken in grain doses three times daily. 20th. Rather better. Dose to be increased to two grains at the same intervals. July 24th. Has much greater command over the paralytic members. General health good. Head free from pain. To continue. August 14th. Improves weekly. Discharged relieved.

CASE X.

SARAH PRIOR, aged 36, admitted an out-patient September 16th, 1827. Ill four months.

Her right arm was quite useless. Frictions and electricity have not afforded her the least relief. A grain and a half of brucia to be taken three times in the day. November 28th. During this interval, the dose has been increased to two grains four times daily. Is much better. To continue. December 16th. She can now use her arm with tolerable facility. Appetite good. Spirits excellent. January 14th. Strength of affected limb natural. Discharged cured.

The above cases have been selected from some others, as affording the best evidence of the remedial value of brucia in paralysis. The results of my trials with brucia lead me to recommend it as a valuable medicine in that affection. The action of this alkali upon the system is (as before observed) analogous to that of strychnia, but less powerful; hence it is a preferable remedy *in paralytic attacks, accompanied with much cerebral disturbance*. When the brucia is employed, it is prudent to commence with a proportion not greater than a grain, taken twice daily, which may be cautiously advanced to the exhibition of two grains, three or four times in the day. In the case of Andrews, which I have de-

tailed, it appears, that he was incapable of taking a two grain pill five times daily, without experiencing symptoms of an unpleasant nature. I have noticed the same result, too, in some other instances. With respect to the length of time necessary to give the brucia a fair trial in paralytic affections, I should say, from my experience with this remedy, that unless a marked advantage accrue from its use in the course of five or six weeks, it may be very properly laid aside.

ON
THE MEDICINAL PROPERTIES OF
THE
ACETATE OF MORPHIA,
IN SOME INSTANCES OF
PAINFUL AFFECTION OF THE STOMACH.

THE *papaver somniferum*, which affords the opium of commerce, belongs to the natural order *Rhæadeæ* of Linnæus, and *Papaveraceæ* of Jussieu. It is quite unnecessary for me to describe the manner in which opium is procured, as this is fully explained in several elementary works on *Materia Medica*. Its high value as a medical agent has been confirmed by the most ample experience. Indeed, it would fill a volume of no ordinary size, to dwell fully and accurately upon the various diseases in which opium has been recommended by men of the greatest eminence in the profession. It is to the labours of modern chemists that we are chiefly indebted for the knowledge which we now possess of the constituents of this substance. Amongst other names may be mentioned those of Derosne, Sertuerner, Seguin,

Choulant, Robiquet, Pelletier, and Caventou. In 1803, Derosne obtained from opium a crystalline matter in which he supposed the active properties of the drug resided. The results of his researches are published in the forty-fifth volume of the *Annales de Chimie*. In the same year, Sertuerner published his analysis of opium, but it failed to excite any attention. In 1817, he again published, in Gilbert's *Annals*, an account of his experiments with this drug, which were afterwards repeated and confirmed by several foreign chemists, as well as by others of our own country*. He obtained from opium a substance called by him *morphia*, a small quantity of extractive, and an acid, to which he gave the name of meconic. Sertuerner maintained, that the salt of Derosne was simply a meconate of morphia, but Robiquet seems to have clearly pointed out its distinctive properties†. This last chemist also procured from opium another acid besides the meconic, named by him codeic. Hence, according to these experiments, the constituents of opium may be said to be, 1. Morphia; 2. Narcotine (or the crystallizable principle of Derosne‡); 3. Meconic acid; 4. Codeic acid; 5. A substance analogous to Caout-

* The Memoir of Sertuerner has been translated in the fifth Volume of the *Annales de Chimie et de Physique*, p. 21.

† Ibid, p. 275.

‡ By the reasoning of my friend Dr. Andrew Fyfe (*Chemistry*, vol. ii, p. 254), this principle of Derosne is the same with morphia; but I must add, that his arguments have failed to convince me of this fact.

chouc; 6. Mucilage; 7. Feculent Matter; 8. Resin; 9. Fixed Oil; 10. A Vegeto-animal substance; 11. Impurities. Different processes have been recommended for obtaining morphia by Sertuerner*, Robiquet†, Choulant‡, Dr. Thomas Thomson§, MM. Henry Junior et Plisson||, M. Hotton¶, and others. Sertuerner took pains to determine the effects of morphia on the human body; and for this purpose he subjected himself and three of his pupils to several experiments with this substance. He found that the morphia in doses of half a grain, repeated each half hour, produced at first a redness of the eyes and cheeks, and an exaltation of the vital powers, pain in the stomach, debility, numbness, and a disposition to faint. These symptoms were aggravated upon swallowing vinegar. He says but little upon the MEDICAL PROPERTIES of morphia, having only employed it with advantage in one case of odontalgia, which had not yielded to opium. Orfila also performed many experiments with morphia, the results of which he afterwards published. He found, 1st. That morphia *alone* has no action upon the system, on account of its insolubility: 2d. That the acetate, sulphate, and hydro-

* Annales de Chimie et de Physique, vol. v, p. 21.

† Ibid, p. 275.

‡ Gilbert's Annalen, p. 56, 342.

§ Annals of Philosophy, June, 1820.

|| Archives Generales de Medicine, tom. xvi, Mar. 1828, p. 478.

¶ Journal de Pharmacie, tom. x, p. 475.

chlorate of morphia, produce effects analogous to those of the watery extract of opium. 3d. That morphia dissolved in acetic acid exerts a greater action on the system than the same quantity of the watery extract of opium: 4th. That the watery extract of opium deprived of morphia, has no energy: 5th. That a solution of morphia in olive oil, has double the power of the same quantity of the watery extract of opium: 6th. That morphia has more influence when injected into the veins, than when applied to cellular tissue or introduced into the stomach: 7th. That poisoning from morphia differs in no respect from that occasioned by opium, and must be treated in the same manner*. The experiments of Magendie on the action of morphia are at variance with those of Orfila. He contends, that it possesses solely a *narcotic influence*, and that the stimulating effects which frequently accompany the use of opium are attributable to the narcotine it contains. Orfila, however, has found an equal degree of excitement to attend the exhibition of opium, when it has been deprived of narcotine. I have myself repeated one or two of the experiments mentioned by Magendie, but with different results from that eminent physiologist. On placing one grain of morphia, and one of narcotine in the pleura of a rabbit, I could perceive "no remarkable struggle

* Annales de Chimie, et de Physique, tom. v, p. 288; Toxicologie Generale, tom. ii, p. 167; Nouveau Journal de Medecine, tom. i, p. 123.

between the stimulating effects of the narcotine," and the anodyne effects of the morphia. The animal slept soundly in about an hour after the experiment was performed. I have also exhibited the narcotine to several of my patients, but without finding that it produced any marked excitation. Owing to the insolubility of morphia, it was found desirable to combine it with acids, and thus form salts, admitting of ready solution. Hence, we have the acetate, the sulphate, and hydrochlorate of morphia. Magendie has employed these salts as remedies in disease, and states that he derived from them all the advantages of opium without any of its inconveniences*. He used it in the case of a young lady, 24 years of age, who was supposed to labour under aneurism of the arch of the aorta. She was also subject to severe pains in the region of the diaphragm and in the lower limbs, and could obtain no rest. "I first employed" (he says) "the prussic acid with advantage, but I was obliged to cease after about six weeks, because it occasioned painful and fatiguing dreams. I then determined to try the salts of morphia, which, from experiments on dogs, I had found to be powerful narcotics. I ordered four pills, each containing a quarter of a grain of acetate of morphia, and directed one to be taken at night on going to bed, and a second in the morning. At night she took a pill, which not producing the de-

* *Nouveau Journal de Medicine*, 1818 ; and *Formulaire pour la preparation et l'emploi de plusieurs nouveaux Medicamens*.

sired effect, in about half an hour she took a second, after which she slept profoundly, which she had not done for many months. In the night she awoke after three or four hours quiet sleep, was sick, but slept again. This happened several times. At six o'clock she made some efforts to vomit, and ejected a small quantity of mucus and bile; but she remained in a state of freedom from pain she had not before experienced. It was evident the dose had been carried too far: I recommended her to take two pills in the twenty-four hours, each containing only the eighth of a grain, which she employed for six months, and always with advantage." "I tried upon the same patient" (he continues) "to substitute the muriate of morphine for the acetate, but I found it necessary to employ a grain and a half, and even then the effect was less satisfactory, so that the patient could not continue its use*." Magendie also exhibited the acetate of morphia with marked advantage in a schirrous affection of the right breast.

In a severe case of spasmodic affection of the stomach and bowels, occasioned by an incautious use of iodine, Dr. Gairdner states, "that the young lady's life was saved by a quarter of a grain of acetate of morphia given every half-hour. Every other form of opium was tried without effect; they were not even retained an instant on the stomach.

* See Medical and Physical Journal, vol. xl, p. 276.

The acetate of morphia alone could be taken, and it effectually restrained the disease, which must otherwise have very soon terminated the life of the patient*.” It is but fair to state, however, that this medicine did not answer his expectation in other cases. The acetate of morphia has been successfully used as an external remedy in tetanus. Two cases illustrative of its efficacy when thus employed are noticed in the *Archives Generales de Medecine*†. In one instance of traumatic tetanus, bleeding from the arm, leeches to the anus, the warm bath, mercurial frictions upon the neck and legs, a blister to the nape of the neck, and sudorific drinks, were tried with little or no benefit. A quarter of a grain of the acetate of morphia, mixed with a small quantity of cerate, was then applied to the blistered surface at ten o'clock on the morning of the second day of the disease. “The trismus” (says the reporter) “completely ceased, but the rigidity of the neck continuing, the proportion of the acetate was doubled at eight o'clock in the evening. In three hours afterwards, the affected parts assumed a natural condition; the night was passed tranquilly, and on the next morning a slight degree of lassitude alone remained.” In another severe case of spontaneous tetanus, a small blister was applied to the nape of the neck at eleven o'clock in the morning, which rose about three o'clock in the afternoon; and a

* Essay on the effects of Iodine, p. 24.

† Tome Juillet, 1828, p. 440.

quarter of a grain of the acetate of morphia was then put upon the blistered surface. At six o'clock in the evening the fore-arm could be extended, and in the course of the night the muscles of the neck, face, and eyes, recovered their wonted mobility. At seven o'clock on the following morning, the disease was gone, and on the 25th of July the patient resumed his accustomed occupation. Some other instances illustrative of the remedial properties of the acetate of morphia have also been recorded. My esteemed friend Dr. Holme (late senior physician to our infirmary) informs me, that he has on several occasions found this salt a remedy of much value.

I shall now proceed to detail some of the cases in which I have made trial of the acetate of morphia. I shall first notice a few instances of pain at the pit of the stomach, in which this medicine was beneficially exhibited.

CASE I.

A young woman, 26 years of age, had laboured under severe pain in the epigastrium for several months. Leeches and blisters had been applied to the part; and various internal remedies had been exhibited, but with little or no relief to the pain. She said that she had latterly taken opium in rather large proportions, but that it rendered her so costive that she had not a motion in the course of a week or ten days. Still she was under the necessity of

continuing its use, in order to obtain a mitigation of the pain. I directed her to take the fourth of a grain of the acetate of morphia each second hour, carefully noticing its action. As this quantity was too small to produce much relief, it was increased to half a grain, and afterwards to a grain every third hour. This dose succeeded in preventing a recurrence of pain, and during its administration, the bowels were readily preserved open by mild aperients. She perfectly recovered in the course of a few weeks.

CASE II.

SARAH SMITH, 35 years of age, servant, admitted an out-patient, August 16, 1825.

She complained of severe pain in the stomach after eating (not aggravated by pressure), impaired appetite, and other dyspeptic symptoms; bowels, by report, regular. Her ailment was of two months standing. Leeches were applied to the epigastrium, and followed by a blister. 18th. Pain at the stomach not in the least relieved by the leeches or blister. Has had several stools daily. She has suffered much from frequent vomiting during the last week. I directed her to take five grains of the oxide of bismuth twice daily. September 8th. Says she has derived no benefit from the bismuth, and is very anxious to try some other remedy. I now prescribed a quarter of a grain of the acetate of morphia, three

times daily. 22d. Her complaint has been much less troublesome since last report, and her appetite is considerably improved. Bowels regular without medicine. To continue the morphia only twice in the day. October 14th. The bowels had become rather confined, but they were freely opened by a small quantity of the common sulphate of magnesia mixture of the hospital, and are regular at present. She has rapidly gained both flesh and strength, and her looks are surprisingly altered for the better. I directed her to discontinue the further use of the morphia, and to take for a short time an infusion of cascarrilla, to which was added the tincture of orange peel. She was discharged cured on the 28th.

CASE III.

ELLEN BROTON, aged 41, admitted an outpatient on the 21st May, 1826. Fustian cutter.

She has laboured under severe pain at the scrobiculus cordis, particularly in a morning and forenoon, for more than six months. Her appetite is nearly gone, and her bowels are alternately loose and costive. Countenance pale. She has taken different medicines for the last two months, but with no advantage. From my success with the acetate of morphia in the two preceding cases, I determined upon its trial in the present instance. She was accordingly directed to take a quarter of a grain of the salt in the form of pill each second hour, during the

continuance of the pain. The bowels were moved by castor oil. June 4th. She derived almost immediate relief from the use of the morphia, and is now quite free from any kind of uneasiness in the epigastrium. Her appetite is much improved, and she makes no complaint but of debility. She was ordered to take one pill only in the early part of the day. June 26th. The pain in the stomach has not been once present during this interval; and she is so far improved in general health and strength as to be able to follow her usual employment with comfort to herself. She was discharged *cured*.

CASE IV.

MICHAEL SHARPLES, 29 years of age, admitted an out-patient, June 4th, 1826.

He had occasionally experienced much pain at the pit of the stomach for several months, but during the last three weeks it had been so violent and constant that he had been obliged to relinquish his employment, though he was a man of industrious habits, and had a young and numerous family to support. His spirits were very low, appetite gone, and bowels costive. Twenty leeches and a blister had been applied to the epigastrium by a surgeon in the neighbourhood of Oldham (whom he had consulted about his disorder), but without producing any alteration in his pain. Some internal medicines had also been administered with a similar result. I

directed him to take a quarter of a grain of the acetate of morphia made into a pill, three times daily, and four spoonfuls of a common purging mixture every sixth hour until the bowels were freely evacuated. 16th. The pain in the stomach is much diminished. A few doses of the opening medicine induced a copious alvine discharge, and during the last week he has had one and sometimes two motions daily, without the aid of medicine. To continue the morphia. 28th. He is in every respect better. His appetite is becoming rather keen; and he gains flesh weekly. He is very anxious to persevere with the pills for some time longer. July 10th. In reply to my inquiry respecting his health this morning, he said, I feel quite well. His looks were cheerful, and his body plump. He was accordingly discharged cured. This patient came under my care again in November of the same year with his former symptoms, which were removed by the same method of treatment.

CASE V.

A young man, named HARRIS, 22 years of age, was brought into the Infirmary about nine o'clock in the evening in a state of complete coma. His friends stated that he had been much dejected in mind for several weeks, and they had reason to suppose, that in a fit of desperation, he had taken a considerable quantity of laudanum. By means of the stomach

pump, and the free exhibition of stimulants, he was rescued from his perilous situation. When he had so far recovered as to be able to answer the questions put to him, in a rational manner, I asked him to tell me what had induced him to attempt so dreadful an act. He replied that his existence had been rendered miserable for several months by a constant gnawing pain at the stomach, which had prevented him from following his work, and reduced him to poverty and distress; and that he had in vain sought for relief from medicine. His countenance was pale, and his body was much emaciated. After prescribing for a short time aperients, I ordered him to take half a grain of the acetate of morphia, twice daily. In the course of three weeks, he derived very great benefit from the medicine, and expressed himself as enjoying a degree of comfort to which he had been a stranger for months. His appetite was somewhat improved, and his spirits were more cheerful. Up to this period he only found it necessary to take some castor oil. He persevered with the morphia once in the day for several weeks longer; and under its use perfectly recovered both his mental and bodily strength.

CASE VI.

JAMES GREEN, 42 years of age, admitted an outpatient, August 27th, 1826, porter.

He was a remarkably well made man, and previously to his present ailment, possessed great muscular power. His habits had at times been very irregular. He complained of a severe pain at the pit of the stomach (which was increased by pressure), loss of appetite, bodily debility, and low spirits. For the last four months he had tried a variety of medicines, but without any good effect. He was ordered a fourth of a grain of acetate of morphia three times in the day. September 2d. Pain less severe, but the appetite remains bad. Bowels rather costive. To take a scruple of the compound jalap powder of the hospital, and to continue the morphia. 16th. The powder purged him several times, and it has been repeated once since the last report, with a similar result. He is so much better, that (to use his own expression) "he is not like the same man." He was directed to take the medicine only once daily. October 8th. He has gained both flesh and strength during this interval, and his countenance is more lively. He has now a tolerably good appetite for food. To continue. Having recovered his ordinary health, I discharged him cured. This patient has had no return of his complaint, and is now one of the stoutest men in the town.

CASE VII.

PYROSIS.

MARY FORD, aged 26, admitted an out-patient, February 4th, 1827.

Her constitution had always been rather delicate, but until within the last two months she had been capable of following her occupation as a weaver. During that time she has laboured under a dull gnawing pain at the pit of the stomach, attended with a copious discharge of an acid fluid at the mouth, great flatulence, and uncertain appetite. Belly confined. After emptying the bowels by castor oil, she was ordered to take the morphia in the same manner as in the preceding case. 16th. She has already obtained relief from the medicine. The acid eructations are both less frequent and less copious. Bowels open. To continue. 26th. The pain in the stomach is much diminished, and she has had no discharge of fluid. During the last four days her appetite has also been better. The bowels have become rather costive. To take some aperient medicine and continue the acetate. March 14th. She considers herself perfectly well, but I wished her to persevere with the medicine for a short time longer, when she was discharged cured.

CASE VIII.

JOHN RUSSELL, aged 39, admitted an out-patient, July 4th, 1827, butcher.

He has suffered for more than a year and a half from pain at the pit of the stomach, especially after eating, and his appetite and strength have become much impaired. He has been using bitters and aperients for several months, but with little or no benefit. His bowels are now quite regular. I prescribed half a grain of the acetate of morphia to be taken twice daily. 6th. He says that his pain is relieved, and that he feels himself on the whole considerably better. To continue. 12th August. During this interval, his improvement has been rapid. He experiences scarcely any pain at the stomach, and the tone of that organ is so far recovered as to enable him to take a sufficient quantity of food without inconvenience. I desired him to persevere with the medicine, but to take it for the future only once daily. September 2d. He is quite well. Discharged *cured*. I met with Russel on several occasions afterwards, and had the satisfaction to find that his restoration to health was permanent.

CASE IX.

JOHN YOUNG, aged 44, six months ill.

Complained of frequent pain at the pit of the

stomach, and occasional nausea and vomiting. Had tried various medicines without benefit. Took the acetate of morphia, in doses gradually increased from the sixth of a grain to half a grain twice daily for six weeks, but without deriving from it any advantage.

CASE X.

MARY WIDDOWS, aged 36.

She had experienced for several months a gnawing pain in the epigastrium. She took the acetate of morphia as in the preceding case, but without benefit.

I shall now offer some examples of uterine disease treated with the salt under consideration.

CASES OF UTERINE DISEASE
IN WHICH
THE ACETATE OF MORPHIA
WAS
BENEFICIALLY EMPLOYED.

CASE I.

SCIRRHUS OF THE UTERUS.

A WOMAN, 46 years of age, who had been under the care of one of the surgeons of the Infirmary for some months, became a home-patient of mine in 1825. She complained of severe lancinating pains in the lower part of the belly, accompanied with a copious sanious discharge, which was so extremely offensive that I could not approach her within some yards. She had tried a variety of remedies, but without any benefit. Her strength had much declined. The inguinal glands were somewhat enlarged and indurated. I never saw any poor creature endure such heart-rending pain and misery. Without the least hope of removing the disease, my attention was earnestly directed to the mitigation of her distressing agony. Opium, in the dose of a grain and a half every hour, afforded her temporary relief, but it produced great constipation ; and, when

her bowels were confined, her sufferings were more aggravated. I now resolved to exhibit the acetate of morphia, commencing with the proportion of an eighth of a grain every second hour. The dose was shortly increased to half a grain every hour. This quantity of the salt afforded her much relief, and seemed to have but little effect as an astringent upon the bowels. She persevered with the acetate of morphia at her own particular request, for she said, that though her disease was far beyond the powers of any medicine, still she derived from it a mitigation of her sufferings. She lingered for about two months in this painful condition, when death happily released her from it. On a post-mortem examination of the body, the uterus (as was suspected during life) was found to be in a completely scirrhus state. Hence a truce from extreme misery was all that could possibly be expected from medicine.

CASE II.

INDURATION OF THE UTERUS.

A WOMAN, 36 years of age, came under my care on January 4th, 1826. She complained of frequent shooting pains in the lower part of the abdomen. She compared them to labour pains in point of severity. Her bowels were mostly costive, and her strength was much reduced. She had been attended for some time by a respectable surgeon in the town,

but still her complaint became daily more urgent. On introducing the finger into the vagina, the uterus was found to be harder than natural, somewhat enlarged, and very painful to the touch. I first prescribed calomel, which acted briskly and brought away a considerable mass of hardened excrement; and after administering gentle laxatives for some days, I commenced with a quarter of a grain of the acetate of morphia twice daily. 12th. She thinks that the medicine has been serviceable to her in mitigating the violence of the pains. The dose was increased to half a grain at the same intervals. February 4th. It has been found necessary to exhibit aperients several times since last report, for the bowels had become much confined, owing I believe, more to the pressure of the uterus upon the rectum than to the morphia. The pains are much less frequent, and her appetite and strength are improved. To continue the salt. 24th. She is now almost free from uneasiness, though she is obliged to take castor oil in order to preserve a regular action of the bowels. I discontinued my attendance upon her on the 26th.

CASE III.

ANN BRADLEY, 32 years of age, became an outpatient of the Hospital on the 6th of March, 1826, labouring under severe pain in the hypogastric region, together with a copious fetid discharge from the vagina. Her complaints commenced about three

months before. She had made trial of several remedies without any benefit. After the bowels had been freely evacuated, the fourth of a grain of the acetate of morphia was ordered to be taken three times daily. The relief obtained from the medicine was shortly very striking. The dose was then increased to half a grain twice in the day. This proportion succeeded in less than a fortnight in checking the discharge and removing the pain. She continued the remedy, however, for some weeks longer, when she was discharged as cured. This patient suffered a relapse, though less severe than before, but the morphia being again employed, the same beneficial effects were produced.

CASE IV.

ANN SERGEANT, aged 45, became an out-patient of the Infirmary on the 4th of June, 1827, complaining of a frequent shooting pain in the lower part of the belly. Her bowels were generally constipated. The menses appeared twice, sometimes thrice, monthly, in small quantities, attended with an aggravation of her pain. On the 5th she commenced with a quarter of a grain three times a day. She stated, on the 12th, that she had not derived much benefit from the medicine. The dose was therefore augmented to half a grain twice daily. This proportion had shortly the desired effect in subduing the pain. She continued the remedy once in

the day until the 4th of July, when she was discharged cured.

CASE V.

SCIRRHUS OF THE UTERUS.

The following case occurred in private practice. A lady, 51 years of age, had been subject, for more than twelve months, to considerable pain in the pelvis, with a frequent desire to make water, and occasional tendency to nausea. The pain was much increased each time she had a motion. Her strength was reduced, and appetite extremely bad. She had for some time been making trial of a combination of cicuta, hyoscyamus, and calomel, but without any advantage. Opium, she said, afforded her the most relief, but owing to the obstinate state of costiveness induced by its use, she was obliged to take it with great reserve. On an examination *per vaginam*, the uterus was found to be indurated and thickened. Under these circumstances, a relief from suffering was all that could be expected. I therefore ordered half a grain of the acetate of morphia to be taken twice daily. The patient soon derived ease from the remedy in this proportion; and she never afterwards used the morphia without experiencing from it a mitigation of her sufferings, and her bowels were tolerably regular. Though the violence of the pain was in a great measure subdued, still her strength rapidly declined, and her appetite completely failed,

until at length death happily released her from further misery. On opening the body, a scirrhus condition of the uterus was detected, which, towards the fundus of the organ, had passed into ulceration. No disease whatever appeared in the other viscera of the abdomen and pelvis, with the exception of the bladder, which was somewhat thicker than natural. In this instance, the powers of the acetate of morphia in diminishing pain without inducing any unpleasant effects were strikingly illustrated.

CASE VI.

JANE MILLETT, 42 years of age, was admitted into the hospital on the 27th January, 1827, labouring under strongly marked symptoms of uterine disease. She had tried various remedies without benefit. The acetate of morphia soon had a decided effect in relieving her uneasiness, but not in removing the complaint. She continued the salt for a few weeks, when she was discharged relieved.

CASE VII.

PAINFUL MENSTRUATION.

A female servant, 30 years of age, was subject to the most excruciating agony at each return of the menstrual discharge. Her suffering was so great that she generally remained insensible for some hours. Her general health seemed to be good, and

her bowels were regular. She had been under medical care both in Liverpool and Chester, but had not derived any relief from the remedies which had been employed. At the time of her applying to me she expected the catamenia in about ten days. I directed her to take a quarter of a grain of the acetate of morphia on the first accession of pain, and to continue this proportion, every half hour, whilst it was violent. She called upon me in the course of a fortnight, and stated that the second dose afforded her very great relief, without suppressing the menstrual discharge, which was natural both in quantity and appearance. She now takes the morphia regularly at every monthly period, and with like advantage.

CASES OF NEURALGIA,
IN WHICH
THE ACETATE OF MORPHIA
WAS
SUCCESSFULLY EMPLOYED.

CASE I.

ANN JONES, 45 years of age, unmarried, had enjoyed a tolerably good state of health previously to last April (1826), when she was first seized with an acute pain, shooting from the fore part of the left cheek to the ala of the nose and angle of the mouth of the same side. Since that time she experienced a return of the pain, at least once each week, until within the last two months, when it has recurred several times daily. Her general health is much impaired by the constant irritation of the complaint, and her flesh and strength are greatly reduced. She has been in the habit of taking ether in large doses, from which she has mostly derived a temporary mitigation of her agony. Leeches, blisters, moxa behind the ear, opiate liniments, friction with the lead ointment (as recommended by Mr. Bedingfield), were first employed externally, and subsequently purgatives, antispasmodics, tonics

of various kinds, and carbonate of iron internally, but with little or no benefit. Under these circumstances I commenced with the acetate of morphia, in the dose of a quarter of a grain every second hour. In the course of two days the proportion was increased to half a grain at the same intervals. On the third day, the beneficial effects of the remedy were duly appreciated by the patient. She persevered with the dose of half a grain, twice daily, for more than three weeks, at the expiration of which time the disease had completely yielded to the influence of the morphia. She has remained well ever since. I only found it necessary to order her opening medicine twice during the above period.

CASE II.

MARY WILLIAMSON, 52 years of age, admitted a home patient, June 6th, 1825.

She was first attacked about three months ago, with a severe lancinating pain in the situation of the right mental foramen, which continued for several hours, and then ceased. It returned, however, on the next morning with aggravated violence, and left her again in the evening. As the pain extended to the teeth on the same side of the jaw, she had been persuaded to have two of them extracted, but the operation afforded her no relief. The remaining teeth appeared to be perfectly sound. When she came under my care, the least degree of

motion, or any attempt at mastication, caused a return of pain. Her general health was much impaired, from the constant irritation to which she was exposed, and she had lost both flesh and strength. Feeling satisfied, from the above symptoms, that the inferior dental nerve was affected, I resolved upon the employment of the acetate of morphia. She was accordingly directed to commence with a quarter of a grain every fourth hour, after the bowels had been freely opened by purgative medicine. June 20. She has had no pain during the last seven days, and can now eat and take exercise without fear of its recurrence. Appetite better: bowels regular. Half a grain of the salt to be taken once daily. July 12th. She is in her usual state of health. Ordered to be discharged cured. I saw this woman several times afterwards, and was glad to find that the pain had not once returned.

CASE III.

BELINDA COLUMBINE, 48 years of age, admitted an out-patient September 4th, 1826.

She was attacked about six weeks ago with a sharp pain over the right foramen supra-orbitarium, which lasted for more than two hours, and then left her. In the course of a week, she was seized with another attack of the same kind, but much more violent, and of longer duration. Within the last fortnight, she has experienced almost daily several distressing paroxysms. The pains darted along the

temple and forehead of the same side. She compared them to thrusting a red-hot iron into a tender part of the flesh. The disease seemed to have its seat in the frontal nerve. Her tongue was clean, bowels regular, and appetite moderate, though she was afraid of using any solid food, for the spasms mostly occurred after eating, and sometimes even when speaking. I ordered her to commence with a fourth of a grain of the acetate of morphia every quarter of an hour, during the continuance of the paroxysm, and once at night when going to bed. September 20th. She has had several attacks during this interval, but they have been less severe since she took the morphia. Bowels open without medicine. To take half a grain of the salt each half hour whilst the pain is present. October 6th. The paroxysms (comparatively speaking) have been mild and transient since the last report. To continue. November 4th. During the last fortnight, she has not had the slightest return of pain. She considers herself well. I directed her to take a half grain pill at night for a short time longer, in order to be certain that the cure was complete. She did so, and has since remained free from her harassing complaint.

CASE IV.

JOHN HALL, aged 36, admitted an in-patient October 10th, 1827.

This man had laboured under inferior dental neuralgia for more than two years when he came under

my care. He had previously solicited advice from several able practitioners, and the diseased nerve had been divided by Mr. Jesse, a respectable surgeon of this town. The operation afforded him only temporary benefit. He was at one time in the daily habit of consuming opium in large quantities, from which alone he experienced a truce from suffering, but the constipation it occasioned compelled him to relinquish its use. I directed him to take a quarter of a grain of the morphia every fourth hour. In less than a fortnight, the paroxysms were almost subdued. He continued this plan for three weeks longer, when he was discharged cured. In the course of a few months, Hall again applied to me for relief, as the pain in the face had returned with its former violence. The morphia was tried a second time, and with a like beneficial result. This relief, however, from extreme agony was not permanent, for he has since been afflicted with this distressing malady. He is now trying the extract of belladonna, and with advantage. The patient preferred the acetate of morphia to solid opium, for, to use his own words, "it did him as much good, and without closing his bowels."

CASE V.

RALPH LOMAS, admitted an out-patient, January 2d, 1827, weaver.

He had been subject for the last sixteen months

to agonizing pains in the left cheek, and outside of the nose of the same side. The sensibility of the infra-orbitary nerve seemed to be morbidly increased. The first paroxysm occurred after long exposure to cold. Within the last two months, the spasms have returned several times daily, and it is distressing to behold his sufferings whilst they are present. The tears flow down his cheeks, and he is almost bereft of intellect. It had been suggested to him to have the nerve divided, but he was anxious to make a further trial of remedies before submitting to the operation. The stomach and bowels were in an unhealthy condition, and his constitution was impaired by the constant irritation of his disorder. Having first directed my attention to the state of the alimentary canal, and obtained a daily regular and natural alvine discharge, I began with the exhibition of half a grain of the acetate of morphia each morning and evening. The patient very soon derived benefit from the medicine. In less than three weeks the paroxysms became much milder and less frequent. I now directed him to take only half a grain whenever he apprehended a return of pain, and to continue the dose every half hour until it afforded him relief. He only found it necessary to take aperients twice during the use of the morphia. He was discharged cured on the 2d of April.

CASE VI.

WILLIAM WEST, a stout looking man, in the 39th year of his age, was suddenly attacked with a severe and violent pain on the right side of his face. He had been advised to have two teeth extracted, which was accordingly done, but with no alleviation of his pain. It may be proper to observe, that the extracted teeth, as well as those remaining, were in a perfectly sound state. Disappointed in his first application for relief, he endured for several months the repeated attacks of his complaint, when he was at length admitted an out-patient of the Infirmary. By the use of the acetate of morphia *only* for six weeks, a complete freedom from pain was obtained, and as no symptoms of a relapse appeared, he was discharged cured.

REMARKS.

The above examples seem sufficient to establish the remedial efficacy of the acetate of morphia in several affections. In proof of its successful administration, it would not be difficult to adduce more instances; but it is my wish to avoid any further detail of cases than may be considered requisite to prove the value of the remedy in question. It must be allowed, that morphia has not always answered the intentions with which it has been employed, but the proportion of the favourable cases has been con-

siderable, compared to those in which it has failed. I have never witnessed any *pernicious consequences* from a prudent use of the morphia. I am led to recommend the acetate of morphia in preference to opium, from a conviction that its efficacy may be equally relied upon, whilst its administration will be unattended by the *distressing head-ache, excessive constipation, and other unpleasant symptoms*, which that drug in large doses mostly induces. It appears to be the *chief advantage* of morphia, that it may be employed in those cases in which it is desirable to obtain a narcotic effect, and at the same time of the first importance to avoid constipation. It is proper to unload the bowels before commencing with the acetate, so as to give the remedy a fair chance. It is prudent to commence with not more than a quarter of a grain, which may be gradually increased to half a grain, a grain, or two grains, according to the urgency of the symptoms and the effect produced. These doses are applicable to adults. I have mostly prescribed it in the form of pill, which seems to answer very well.

It is desirable that the profession should put the virtues of the acetate of morphia to the test of experience, in order that its claims to notice may be better and more fully determined. It is only by the united observations of many practitioners that the value of any remedy can be satisfactorily established.

EXPERIMENTS AND OBSERVATIONS

ON

VERATRIA AND COLCHICUM AUTUMNALE.

THE alkaline substance named veratria was first obtained from the veratrum *sabadilla*, by those indefatigable chemists Pelletier and Caventou. They afterwards detected it in the veratrum album and colchicum autumnale. The acetate of veratria in the dose of a few grains has been found to destroy animals when introduced into the stomach and intestinal canal. "These effects are still more rapid (says Magendie) if one or two grains be thrown into the pleura, or into the tunica vaginalis. In less than ten minutes death occurs, preceded by tetanic convulsions*." I have myself performed a few experiments on animals with veratria, which is said to be less active than the acetate.

Exper. I. I gave five grains of veratria to a full grown male rabbit about three o'clock in the afternoon. In the course of half an hour the animal became very uneasy, and shewed a strong disposition to vomit. At a quarter past four he reeled from one side to the other whenever he was disturbed, the respiration was hurried, and the pulsations of

* Vide opus ante cit. p. 60.

the heart were tumultuous and irregular. These symptoms rapidly increased, and he died at half-past six o'clock. On the following morning, I opened the body, but I could not discover any morbid alteration either in the stomach or intestines, excepting a slight redness on the mucous membrane of the lower part of the rectum. The lungs were turgid with blood.

Exper. II. I administered to a cat three grains of veratria, which in the course of an hour occasioned violent vomiting, and some degree of giddiness. The animal was much distressed for several hours, but seemed to be tolerably well the next day.

Exper. III. At eight o'clock in the evening three grains of veratria were given to a small dog. In about an hour the same symptoms occurred as in the preceding experiment. The animal recovered, but remained feeble and rather weakly for several days. Feeling anxious to ascertain the effects of veratria on the human body, and judging that its action, like that of the plants from which it is obtained, would be powerful, I resolved upon administering it in small proportions to one or two of my dropsical patients. I shall briefly detail the results of these trials.

CASE I.

HUGH CAIRNS, 39 years of age, was admitted into the hospital on the 7th November 1826, on account of ascites and anasarcaous swellings of the

lower extremities. He had been ill three months. His urine was scanty, thirst urgent, pulse feeble, and respiration somewhat difficult. He commenced with a quarter of a grain of veratria every four hours. This quantity did not act upon the bowels with energy. It was then increased to half a grain at the same intervals. In this proportion it occasioned several copious watery dejections daily. On the 30th the swellings were considerably diminished. He was now directed to take a grain of veratria twice daily. On the 9th of January he was discharged cured.

CASE II.

JOHN CROWDER, 43 years of age, entered the Infirmary on the 13th of February, 1826, labouring under dropsical swellings of the belly and legs. He also complained of a dull pain in the left side of the chest. His urine was scanty, and bowels costive. He had previously suffered from a harassing cough, but it had completely left him for nearly two months before he came under my care. The veratria was exhibited in the dose of a fourth of a grain every fifth hour. It was increased on the 27th to half a grain every fourth hour, and was attended by frequent vomitings, and rather copious discharges of watery fluid from the intestines. His strength was supported by tonics. He persevered with this re-

medy for more than six weeks, but with little or no benefit.

CASE III.

HANNAH DAVENPORT, 38 years of age, presented herself for admission, as an in-patient, with ascites of three months standing. She commenced with the veratria, in the same proportion as in the preceding case, on the 26th December, 1826. The dose was progressively advanced to a grain three times daily. Vomiting and severe purging were freely produced, but her complaint remained stationary. She was made a home-patient on the 14th of February, 1827.

CASE IV.

JOSEPH HUGHES, aged 54, became generally anasarcaous after exposure to wet and cold, whilst in a state of intoxication. He had pain in the chest, with slight cough. After the application of a blister to the sternum, he was ordered the fourth of a grain of veratria four times daily. He continued its use for several weeks, in doses gradually increased from a quarter to half a grain, and a grain, three times in the day, but without amendment. He was afterwards relieved by calomel and squills.

CASE V.

ISAAC SMITH, aged 46, was admitted July 4th, 1827, with both anasarca and ascites. He attributed his complaint to cold. Urine was scanty, and thirst urgent. Bowels, by report, costive. The veratria was employed in the same manner, and with a like unsatisfactory result.

CASE VI.

A young woman, ill of ascites, came under my care in December 1827. Half a grain of veratria was exhibited every four hours. She continued this dose for three weeks, when it was increased to a grain at the same intervals. For a short time she seemed better, and the swelling was somewhat diminished: but her amendment was of short duration, for though the medicine produced frequent vomiting and purging, still the ascites and debility increased so rapidly as to compel me to relinquish its further use. She was afterwards restored to a tolerable state of health by calomel and squill.

In the above instances, it appears that the veratria acted simply as a drastic purgative, exciting in a moderate dose vomiting and frequent excretions from the bowels. From the opportunities I have had of noticing the effects of this substance, I should say that it possesses no *particular* claims to the attention of the profession, and is less certain in its

operation than elaterium, croton oil, and some other medicines of the same class.

The *colchicum autumnale* having obtained a high character in this country for its efficacy in gout and rheumatism, and the experiments of MM. Pelletier and Caventou having satisfactorily proved that its active principle is a gallate of veratria, I felt desirous of contrasting the effects of the meadow saffron and the veratria, when exhibited singly, in the same form of disease.

The following tables will shew the results of my trials with each of these remedies in twenty-four instances of chronic rheumatism.

CASES OF CHRONIC RHEUMATISM TREATED WITH VERATRIA.

No.	Name.	Age.	Species.	Treatment.	How discharged.
1	Sarah Coope	36	Sciatica	Veratr. gr. $\frac{1}{4}$ ad gr. ss. ter in die.....	Relieved.
2	Elizabeth Fag	46	Chronic Rheu matism	Ditto	Relieved.
3	John Jubbson	27	Sciatica	Ditto	Cured.
4	Jane Blee	51	Lumbago ...	Ditto	Cured.
5	Joseph Short	29	Ditto	Ditto	Cured.
6	James Crowder	28	Chronic Rheu matism	Ditto	Relieved.
7	Vernon Pepper	22	Ditto	Ditto	Cured.
8	Mary Bevin	33	Ditto	Veratr. gr. $\frac{1}{4}$ ad gr. i, bis in die	Relieved.
9	William Leak.....	43	Ditto	Veratr. gr. $\frac{1}{4}$ ad gr. ss. quater in die .	No benefit.
10	Jane Waterside.....	36	Ditto	Ditto	Slightly relieved.
11	Elizabeth Crockett ..	46	Ditto	Ditto	Not relieved.
12	John Brownlowe	19	Ditto	Veratr. gr. $\frac{1}{4}$ ad gr. ss. ter in die.....	Ditto.
13	Jacob Linn.....	61	Ditto	Ditto	Ditto.
14	Stephen Greenwood...	39	Ditto	Veratr. gr. $\frac{1}{4}$ ad gr. ss. quater in die .	Ditto.
15	Margaret Maskery .	53	Ditto	Ditto	Much relieved.
16	Joseph Sidlow	48	Sciatica	Ditto	Cured.
17	Catherine Mooney...	51	Chronic Rheu matism	Veratr. gr. $\frac{1}{4}$ ad gr. ss. ter in die.....	Relieved.
18	Maria Holland	42	Ditto	Ditto	Ditto.
19	James Wood	16	Ditto	Veratr. gr. $\frac{1}{8}$ ad gr. ss. bis in die.....	No benefit.
20	Elizabeth M'Quade .	29	Ditto	Veratr. gr. $\frac{1}{4}$ ad gr. ss. ter in die.....	Relieved.
21	Joseph Cowcroft	50	Ditto	Veratr. gr. $\frac{1}{4}$ ad gr. ss. quater in die .	Cured.
22	Barney Hayden.....	39	Ditto	Ditto	Relieved.
23	Mary Bruin	48	Ditto	Veratr. gr. $\frac{1}{4}$ ad gr. ss. ter in die.....	Cured.
24	Abraham Gregory...	36	Ditto	Ditto	No benefit.

CASES OF CHRONIC RHEUMATISM, TREATED WITH COLCHICUM.

No.	Name.	Age.	Species.	Treatment.	How discharged.
1	Philip Warwick...	44	Sciatica	Vin. Colch. Semin. gutt. xxv ter in die.	Relieved.
2	Mary Barlow	26	Chronic Rheu matism	Ditto	Cured.
3	Bridget Tute	29	Ditto	Ditto	Relieved.
4	James Healey	16	Lumbago	Vin. Colch. Semin. gutt. xv ter in die..	Cured.
5	Catherine Harbutt	39	Ditto	Vin. Colch. Semin. gutt. xxv ad xxx ter in die	Cured.
6	Mary Dealing	28	Chronic Rheu matism	Vin. Colch. Semin. gutt. xxv ter in die.	Cured.
7	W. Fairbrother ...	32	Ditto	Ditto	Relieved.
8	Eliz. Glansey	22	Ditto	Ditto	Cured.
9	Sar. M'Guinness ...	61	Ditto	Ditto	Relieved.
10	Martin Hannery ..	14	Ditto	Vin. Colch. Semin. gutt. xv ter in die..	No benefit.
11	John Bake	15	Ditto	Ditto	Ditto.
12	Denis Powderby ..	15	Ditto	Ditto	Ditto.
13	William Garton...	19	Ditto	Vin. Colch. Semin. gutt. xx ter in die..	Slightly relieved.
14	Sarah Grindle	52	Ditto	Vin. Colch. Semin. gutt. xxv ter in die.	Relieved.
15	Ellen Fullam	45	Ditto	Ditto	Slightly relieved.
16	Marg. Yarwood...	36	Ditto	Ditto	Cured.
17	Thomas Dolphin ..	44	Sciatica	Ditto	Relieved.
18	Dan. M'Kelvey ...	34	Ditto	Ditto	Ditto.
19	Bridget Mahon ...	26	Chronic Rheu matism	Ditto	Ditto.
20	John Holland.....	39	Ditto	Ditto	No benefit.
21	Joseph Hutton ...	47	Ditto	Ditto	Ditto.
22	Jane Gilroyd	48	Ditto	Ditto	Ditto.
23	William Saville ...	33	Ditto	Vin. Colch. Semin. gutt. xxv ad xxx ter in die	Relieved.
24	Cather. Church ...	48	Ditto	Ditto	Cured.

REMARKS.

In the preceding cases, the veratria and colchicum autumnale were exhibited with very similar results. The action of the two substances upon the system was also analogous, for both produced frequent watery evacuations from the bowels. I have given the veratria and colchicum rather extensively at our Hospital, both in acute and chronic rheumatism, but it must be allowed that they have often failed in affording any permanent benefit. The late Mr. Haden seems to have used the colchicum as a substitute for bleeding, in inflammatory affections, with almost uniform success*. I have given this remedy in the manner pointed out by that author, but with very different results. In more than one instance of acute rheumatism, I have had to regret the neglect of the lancet. Such practice is pregnant with danger. "It is seldom" (the reviewer of Mr. Haden's work justly observes) "that the very severe form of fever, which accompanies acute rheumatism, can be subdued by any remedy short of copious blood-letting; indeed we should not wish to see a smart attack allowed to proceed, when we are possessed of means so efficient to arrest its progress†."

The utility of colchicum in gout is confirmed by general experience. In most of the cases of that

* See Practical Observations on the Colchicum Autumnale, &c.

† Edinburgh Medical and Surgical Journal, vol. xvii, p. 452.

disease in which I have seen this remedy employed, little or no advantage was procured until the occurrence of purging. My esteemed colleague Mr. Simmons, who has been a martyr to the gout for several years, informs me, that he has obtained from the wine of the seeds of colchicum a relief in the paroxysms of that harassing malady, which he had in vain sought for in any other remedy. With that gentleman, the benefit from the medicine seems to depend upon its purgative operation. In some cases, however, it must be allowed, that the colchicum removes the paroxysm of gout without any sensible operation of any kind. In proof of this fact, Mr. Want has adduced the case of the late distinguished Sir Joseph Banks*. I am also acquainted with a highly respected clergyman, in this neighbourhood, upon whom the colchicum produces no sensible effect.

In the exhibition both of veratria and colchicum in moderate doses, I have always observed the pulse in a short time to become slower and depressed; and, if the proportion has been much or rapidly increased, distressing nausea, or vomiting and purging have been excited. It is necessary carefully to watch the effects of these remedies, since in an over-dose they are apt to occasion an alarming, and sometimes fatal train of symptoms. I have generally commenced with the fourth of a grain of veratria, gradually increasing the dose to half a grain thrice

* Vide Medical and Physical Journal, vol. xxxii, p. 202.

daily, or a grain twice in the day ; and with fifteen and twenty minims of the wine of the seeds of colchicum, slowly increased to twenty-five or thirty, at the same intervals. The stomach will be found but rarely to retain more than the last named quantities of these medicines ; and patients hesitate to continue their use for any length of time, when frequent nausea and vomiting are induced.

REMARKS ON THE VIRTUES
OF
IODINE IN BRONCHOCELE, SCROFULA,
&c. &c.

SINCE Dr. Coindet of Geneva first called the attention of the profession to the value of iodine in bronchocele, numerous cases have been published, confirmatory of his statements, in the different British and foreign medical journals. In our own country Dr. Baron*, Dr. Gairdner†, Dr. Manson‡, and some other respectable practitioners, have added their testimony in favour of its remedial efficacy. Dr. Manson has not confined the use of iodine to bronchocele and scrofula, but extended it to chorea, fistula lachrymalis, deafness, &c. At the time that gentleman's work was published, I had given the preparations of iodine rather an extensive trial: and since the perusal of his observations, I have employed it with much care in several of the affections in which he found it highly serviceable. I shall endeavour, with strict candour, to state the effects of iodine in my practice. In bronchocele, I have exhibited this substance with various success, as will be seen from the annexed table.

* Vid. work on Tuberculous Disease.

† Essay on the Effects of Iodine, &c.

‡ Medical Researches on the Effects of Iodine in Bronchocele, &c.

TABLE SHEWING THE RESULTS OF IODINE

IN THIRTY CASES OF BRONCHOCELE.

No.	Age.	Name.	Duration of complaint.	Result.	Remarks.
134		Henry Clark.	2 years.....	Cured.	
244		William Street.	3 years and hf.	Not relieved...	This patient persevered in the use of the solution of the hydriodate of potass, and of friction with the Ung. hydr. potass. for more than three years.
337		Jane Johnson.	1 year.	Ditto.	
444		E. Hawkins.	12 years.....	Ditto.	She took the iodine with regularity for two years.
553		Margt. Done.	6 years.....	No benefit. ...	Continued the iodine for two years and a half.
633		Sarah Barton.	Ditto.....	Somewhat less.	One year's trial of the iodine.
761		John Bardsley.	20 years.....	No amendment	John Bardsley was the father of the two other patients of the same name, and had resided for forty years at a village three miles distant from Manchester. The tumor measured twenty-one inches in circumference.
819		Sarah Bardsley.	2 years.	Cured.	
915		Jane Bardsley.	1 year and hf.	Ditto.	
1028		Bridg. Lavery.	6 years.	No benefit.....	Two years' trial of the iodine.
1121		M. Whitehouse.	2 years and hf.	Ditto.	
1229		Mary Lowry.	3 years.	Ditto.	
1339		Peter Buckley.	6 months. ...	Cured.	
1419		Mary Kendall.	1 year.	Relieved.	
1540		Margt. Purdy.	3 years.....	Ditto.	Left the town with her parents.
1628		Charles Oxley.	5 years.....	No benefit.....	Oxley was very attentive to my directions, and I have every reason to believe that he took the iodine regularly for more than 2 years. Not a single alarming symptom occurred during his trial of it.
1732		Saml. Crabtree.	10 years.	Ditto.	Persevered with the iodine for nearly two years.
1860		John Pickup.	19 years.	Ditto.	Three years trial of iodine.
1935		Ann Courtenay.	1 year.	Cured.	
2056		Hugh Ferguson.	7 years.....	No relief	Tried the iodine for two years.
2138		E. Hamilton.	4 years.....	Ditto.	One year and a half's trial of iodine.
2228		Edward Davis.	18 months. ...	Cured.	
2342		John Clegg.	1 year.	Ditto.	
2429		Mary Segar.	13 months....	Ditto.	
2514		Charles Stott.	2 years.....	Relieved.....	This patient would most probably have been cured if he had persevered with the iodine.
2615		William Strutt.	Ditto	Ditto.	
2740		George More.	16 months. ...	No benefit.	
2843		Ann Eckersley.	9 years.	Ditto.	This patient was very irregular in her attendance and dissipated in her habits.
2925		John Willock.	1 year and hf.	Cured.	
3029		Jane Whittle.	13 months. ...	Relieved.	

I have three cases of bronchocele at present under my care, in which the iodine has as yet been of little service. March 2, 1828.

In several of the above instances (which are selected from some others) it must be allowed that the iodine failed to produce any diminution of the tumours, though its exhibition was regularly persevered in for many months, and the dose of the medicine gradually increased to as great an extent as the state of the stomach and strength of the patients would allow. My experience of the powers of iodine is opposed to the following statement of Dr. Gairdner: "It seldom fails of effecting a complete cure, and when it does, it almost always reduces the swelling very considerably*." In some cases large tumours have been much diminished in a short space of time under the external and internal use of iodine, but *in not a few instances*, the beneficial influence of this remedy has been solicited in vain. Iodine will unquestionably be found a valuable medicine in some examples of bronchocele, but it is by no means entitled to the character of a specific in that affection.

Amongst the out-patients of our Hospital many opportunities are almost daily afforded for adopting every variety of treatment in scrofula; and the results of my trials with iodine lead me to consider it a remedy at least of equal, if not superior efficacy to any of the numerous substances that have been proposed for the cure of that obstinate malady. It would be an easy matter to relate several cases illustrative of the remarkable

* Vid. opus ante cit., p. 35.

power of this medicine in removing enlarged scrofulous glands, after the failure of other plans of cure. It has been my aim to establish the *real virtues* of iodine in a tuberculous state of the lungs. In fifteen well-marked examples of incipient phthisis, I employed this medicine with a strict attention to its effects. In five instances, it appeared at first to arrest the further progress of the disease, but the amendment was only temporary, for the tubercles passed slowly but progressively through their several stages, and death was the consequence of the extensive disorganization which occurred in the lungs. The true nature of the disease in these cases was confirmed by post mortem examination. I shall briefly detail one instance of tubercular phthisis in which I made use of the iodine. A young woman, 27 years of age, had been subject to slight cough and other pectoral symptoms, for three months before she came under my notice. On the application of the stethoscope, I detected a *deficiency of sound* in the upper and front parts of the chest, with a *diffused bronchophonism* in the axilla and beneath the clavicles. The cough was most troublesome each night and morning, with a slight expectoration. Her bowels were tolerably regular, pulse rarely below ninety-four. She commenced with ten drops of the solution of hydriodate of potass three times a day, and took an ordinary linctus for the cough. The dose of the solution was increased in the course of a month to twenty drops, three and

four times daily, and continued in this proportion for more than two months. At first, the symptoms seemed to be ameliorated under the use of the medicine, but the cough soon became more violent, and was accompanied with purulent expectoration, hectic fever, colliquative perspirations, distressing diarrhœa, urgent thirst, impaired appetite, and great emaciation. *Perfect pectoriloquism* was now very evident. The patient's strength sunk rapidly, and death shortly released her from further misery. On dissection, both lungs were found in a diseased state. The right contained several excavations, of different sizes, some of which were empty, others filled with purulent fluid. The left was studded with yellow crude tubercles. It would be a truly happy circumstance to be able to establish the powers of iodine, either in checking the development of tubercles, or removing them when once formed, but, alas! like every other remedy hitherto proposed for the cure of this destructive malady, it will disappoint our hopes.

In paralysis I have derived but little or no benefit from iodine, though such cases were selected for experiment, as were deemed best calculated to give the medicine a fair chance. One of my medical friends, who experienced an attack of hemiplegia of the right side about a year and a half ago, took the iodine with regularity for several months, but without any advantage. In *seven* well-marked cases of hemiplegia, and *four* of paraplegia, occurring

amongst my hospital patients, iodine was unsuccessfully employed, whilst in several of them an improvement afterwards occurred under the use of other remedies. In each of these instances, either general or local bleeding, purging, and a restricted diet, were adopted previously to commencing with the iodine.

I have also made trial of iodine in chorea, but never witnessed any good effects from it, except in two cases. I am at a loss to account for the difference between the results of my experiments with iodine in paralysis and chorea, and those of Dr. Manson, for in his hands this remedy has proved almost uniformly successful. I wish, however, explicitly to remark, that I place the greatest reliance on the accuracy of Dr. Manson's observations, and his known candour and respectability of character entitle his statements to confidence. It is worthy of remark, that with several young females labouring under chorea, to whom I have administered the iodine for some time, the menses have not made their appearance until the sixteenth year. This I merely throw out as a conjecture, whether the action of the medicine in question upon the uterus could have any effect in retarding menstruation. It is a well-established fact, that iodine exerts a powerful action on the glandular system, for the mammæ occasionally undergo considerable diminution in size during its use. This is a point of some importance in the selection of this remedy for females. Iodine

has appeared to me to be a medicine of great efficacy in ascites, depending upon *supposed* enlargement of the liver. The following cases may be selected in proof of this statement.

CASE I.

EDWARD PLACY, 40 years of age, applied to me about the end of August, 1826.

He had occasionally suffered from pain in the right hypochondrium, for about eight months, with a gradual loss of appetite and strength. His complexion was sallow, pulse feeble, and thirst urgent. Considerable effusion had taken place in the abdomen. He had formerly indulged to excess in the use of spirits. After the application of a few leeches and a blister to the hypochondrium, which succeeded in removing the pain, I prescribed ten drops of the solution of hydriodate of potass (thirty grains of the salt to an ounce of distilled water), three times a day. After the blistered surface had healed, half a dram of an ointment, composed of two scruples of the hydriodate to an ounce of axunge, was directed to be well rubbed in over the right lobe of the liver, night and morning. In the course of six weeks an evident amendment occurred, the urine became more copious, the thirst less troublesome, and the patient's strength improved. The dose of the solution was gradually increased to twenty drops, three times a day; and friction with the ointment was at the same

time continued. At the end of three months, Placey was discharged cured, without having experienced any unpleasant symptoms from the use of the iodine.

CASE II.

JAMES PILKINGTON, 35 years of age, came under my care in June, 1827.

He had enjoyed a tolerably good state of health until December, 1826, when he noticed a slight fullness of the abdomen. On his first appearance at the Infirmary, the liver was found to be somewhat enlarged, but not at all painful on pressure, and there was a very perceptible fluctuation of water in the belly. His countenance was pale, and appetite and strength much impaired. As I was desirous of giving the iodine a fair trial, I commenced at once with that medicine, in the same proportion as was employed in the preceding case. This plan was pursued with little variation until the 16th of August, without any marked benefit. Twenty drops were now ordered to be taken three times a day, and a drachm of the ointment to be used morning and evening. The report of the 24th of September, as taken verbatim from my register, states, "that an increased flow of urine, and considerable diminution in the dropsical swelling, had been produced by this medicine." The iodine was exhibited until the 4th of November, when the patient wished to be dis-

charged, in order to resume his usual occupation as a carter.

CASE III.

WILLIAM ARNOLD, 50 years of age, became an out-patient on the 24th of March, 1828.

He had laboured under loss of appetite and general debility for more than six months ; but he had first perceived a swelling in the belly, about two months before he applied to me for relief. At this time, fluctuation of fluid in the abdomen was very distinct, and the hardened edge of the right lobe of the liver extended into the epigastrium. The urine was scanty and high-coloured. His complexion had a slight yellow tinge, his tongue was dry, pulse feeble, bowels costive, and spirits much depressed. The same prescription was employed. The iodine was continued for several weeks with only slight benefit. About the middle of June, however, an obvious improvement occurred. The urine became more abundant, the swelling in the abdomen diminished, the patient acquired strength, and his appetite returned. Towards the end of August, the dropsical swellings had entirely disappeared, and his recovery was complete. He was accordingly discharged cured. From that time to the present, he has enjoyed a good state of health.

CASE IV.

JOSEPH MAJOR, 43 years of age, applied to me on the 4th of July, 1828, on account of an ascites which had existed for nearly six months.

He had a slight cough, with little expectoration, and some difficulty of breathing. The urine was diminished in quantity, and high coloured. The pulse was feeble and strength impaired. The right lobe of the liver was somewhat enlarged and indurated. The alvine evacuations were tolerably natural. He had taken a variety of diuretics and mercury, but with very little effect. A blister was applied to the chest, and an ordinary linctus ordered for the cough. August 1st. The respiration has become free, and the cough has entirely disappeared. He was now directed to take the iodine in the manner before noticed. September 7th. No amendment has as yet resulted from the medicine. Ordered to continue. October 22d. During the last week, he has passed much more water and felt rather stronger. To persevere with the iodine. November 24th. The swelling in the belly is considerably reduced; and so much benefit has already accrued from the remedy as to encourage a further trial of it. December 4th. He has persisted in the use of the iodine since the last report, and without perceiving any ill effects from it. The dropsical effusion is quite gone, and his health is better than it has been for the last few years.

CASE V.

SARAH FIELDING, 49 years of age, of rather intemperate habits, came under my care in June, 1828. She suffered from a severe attack of fever in August 1827, and has never since completely recovered her health. About two months ago, she was seized with a pain in her right side and loins, which was followed by a scanty secretion of urine, and a rapid enlargement of the abdomen. When I saw her there was an evident ascites, and an unnatural fulness about the region of the liver; but that organ was not painful on pressure. Her countenance was sallow, and bowels costive. After obtaining a regular action of the intestinal canal by the aid of mild purgatives, iodine was employed as before. On August 2d, her urine was sensibly increased, and the collection of fluid in the belly was somewhat diminished. This slight amendment encouraged her to persevere in the use of the medicine. She continued it regularly until November 4th, when she felt perfectly well, and so remains.

The preceding examples, it must be admitted, are too few to establish the powers of iodine in dropsy, but they serve to shew that occasional advantage may be derived from that remedy, in some instances of dropsical effusion, where there is

reason to suspect obstruction to the free return of the blood. It is very possible that the benefit in these cases may have arisen in a different manner from what I have supposed, or that it might have been produced by other means; but still that great good was derived from the iodine, cannot for a moment be doubted. In dropsies proceeding from disease of the lungs, the heart, or its large vessels, scirrhus enlargement of the liver and spleen, and some other causes, our art can afford but little service; still it is more particularly in ascites depending upon some enlargement of the liver, or the presence of steatomatous tumors in the abdomen, that iodine is likely to afford some chance of relief. Dr. Abercrombie says, that he has seen very good effects from the external use of iodine in several cases of chronic affections of the liver*. I have also used this medicine in cancerous affections of the *mammæ* and uterus, but with an unsuccessful result. In the whole of the above trials with iodine, I have employed internally a solution of hydriodate of potass in the proportion of half a drachm to an ounce of distilled water; and as an external application, two scruples of the salt to an ounce of axunge. The dose of the former has been ten drops twice and thrice a day, gradually increased to twenty, at the same intervals; and of the latter, a drachm has been

* Pathological and Practical Researches on Diseases of the Stomach, the Intestinal Canal, the Liver, &c., p. 360.

directed to be rubbed in over the part affected night and morning. It is scarcely necessary to add, that caution must be observed in the internal exhibition of iodine, and the dose must be gradually increased; for, like other powerful medicines, if heedlessly employed, it is apt to occasion serious consequences.

ON
THE MEDICINAL USES OF CINCHONIA,
AND
THE SULPHATE OF QUINIA.

AN ample account of the botanical characters and chemical properties of cinchona bark is to be met with in several works on the *materia medica*; so that it only remains for me to attend to the medical history of the alkaline principles which have been obtained from them. It may be observed, however, that the experiments of Fourcroy, Seguin, Vauquelin, Lambert, Duncan, Gomez, Pelletier, and Caventou, have furnished us with most of the facts we now possess respecting the chemical composition of the bark. Many cases illustrative of the remedial efficacy of the quinia have been published in the different medical journals, both of our own and other countries. Dr. Elliotson took the pains to collect all that had been recorded respecting the curative powers of this remedy up to 1823, and also added some highly interesting cases, in which he had himself prescribed it with the most satisfactory results*.

* *Medico-Chirurgical Transactions of London*, vol. vii, p. 543.

Since that time, the sulphate of quinia has been in very general use, and numerous instances in proof of its virtues have been related. Dr. Dickson of Clifton has given an account of some cases in which its febrifuge power was very evident*. The cinchonia (first discovered by my esteemed friend Dr. Duncan) has been much less frequently exhibited, and, indeed, very little has been published concerning the remedial properties of this substance. "Cinchonine has also been employed (says Magendie) as a febrifuge and tonic, particularly by Dr. Chomel: but although both these properties have been observed in it, it would seem to possess them in a minor degree, when compared with the quinine; in certain cases, indeed, the febrifuge effect has been completely wanting. It is consequently to be desired that practitioners should institute fresh trials, regarding the virtues of this substance, which is found in almost all the cinchonas united with quinine, and may be met with alone in that of Carthagena†." I shall briefly detail a few cases of intermittent fever, which I have treated at the House of Recovery and Infirmary with cinchonia.

CASE I.

JOHN MYCOCK came under my care in the House of Recovery on September 6th, 1824. He

* Medical and Surgical Journal, vol. xix, p. 571.

† Haden's Translation of the Formulary of Magendie, p. 54.

had laboured under a tertian intermittent for six weeks, which was contracted in Lincolnshire. I prescribed three grains of cinchonia, in the form of pill, every third hour. He had only three paroxysms after he commenced with the alkali. He was discharged cured on the 18th.

CASE II.

RICHARD PENNINGTON, 46 years of age, was admitted on the 14th of December, 1824, having laboured under a quotidian fever for six months. He was directed to take three grains of cinchonia every fourth hour. A paroxysm occurred on the day of his admission. He only experienced three more, which were much less severe than the first. He was discharged cured in the course of a fortnight.

CASE III.

CHARLES M'CANN, an Irishman, was admitted on the 4th February, 1825, having been affected with a quotidian for more than twelve months. The same proportion of cinchonia was prescribed in this as in the preceding case. The paroxysms for the first week returned regularly, but more mildly. The medicine was continued until the 4th of March, when he was discharged cured.

CASE IV.

DANIEL DUGGIN presented himself as an out-patient of the Infirmary, in March 1825. He had been affected with a tertian for some months, which had commenced in Lincolnshire. He was ordered four grains of cinchonia every fourth hour. He stated, that the second paroxysm, which occurred after he commenced with the alkali, was much milder than it had been for long before. The medicine was continued for three weeks, when he was discharged cured.

CASE V.

JAMES CARROLL was admitted as an out-patient in November 1825, having laboured under a quotidian for three months. He was ordered the same dose at the same intervals.

He only experienced three paroxysms after he took the alkali. He was discharged cured on the 14th of January 1826.

CASE VI.

JAMES LEE had been affected at the time of his admission as an out-patient, on the 14th of August 1826, with a tertian, for several months. The same prescription was employed. He had only two pa-

roxysms after taking the cinchonia. This patient again presented himself six months after he had been discharged, labouring under a severe attack of pneumonia, when he informed me that he had remained quite free from his former malady.

CASE VII.

JAMES ATHERTON was admitted into the House of Recovery on the 20th of August 1826, having been afflicted with a tertian for eighteen months. His appetite was gone, and his constitution had suffered much from a life of great irregularity and intemperance. Bowels said to be confined. After the free exhibition of purgatives, the cinchonia was ordered, in the dose of five grains every fourth hour. He had not less than twelve paroxysms before the alkali succeeded in arresting the disease. He continued the medicine for several weeks, when he left the house in perfect health. This was a very obstinate case.

CASE VIII.

DANIEL CAMERON was admitted as a home patient of the Infirmary on the 7th of November 1827, labouring under a quartan of some months' continuance. He had also a very distressing cough, and the spleen was painful and enlarged. Having first relieved the cough by the aid of blisters to the

chest, digitalis, and mucilaginous medicines, and reduced the spleen to its natural size by leeches, blisters, and mild aperients, I prescribed four grains of cinchonia each third hour. He only experienced three paroxysms after he commenced the use of the alkali. He was discharged cured on the 24th of December.

CASE IX.

An Irishman, named MORAN, had been attacked with a quotidian about three months before he applied at the Infirmary for relief. He was directed to take three grains of cinchonia every four hours. He was discharged cured, at his own request, in less than a month. In two other instances of intermittent fever, the same quantity of cinchonia was followed by an equally favourable result. It is proper, however, to observe, that in two cases of tertian which came under my care, they resisted the power of the alkali, and afterwards yielded to arsenic.

The above cases are intended simply to illustrate the curative virtues of cinchonia in intermittent fever, and to shew that it possesses such as fairly entitle it to notice in the several forms of that affection. In order to avoid a further narration of cases, which must necessarily be similar to those just detailed, I shall give the results of my trials with the Sulphate of quinia in intermittent fever, in a tabular form.

TABLE OF CASES OF INTERMITTENT FEVER,

TREATED WITH THE SULPHATE OF QUINIA.

No.	Age.	Name.	Duration of complaint.	Result.	Remarks.	Dose.
1	26	John Hill	3 months.	Cured	Had only one paroxysm after commencing with the sulphate of quinia.	Gr. iij 3tiis horis.
2	28	John French.....	6 weeks...	Cured		2 gr. 4tis ho.
3	24	John Mullin.....	5 ditto ..	Cured		3 gr. 4tis ho.
4	18	John Benn.	2 months.	Cured		Ditto.
5	27	Thos. Purslow....	3 months.	Ditto		Ditto.
6	25	James Moor.	6 weeks..	Relieved..		Ditto.
7	30	Michael Quin.	3 months.	Cured	Three paroxysms after the use of the quinia.	gr. ij 4tis ho.
8	28	John Dillow.	5 months.	Ditto		Ditto.
9	24	Thos. M'Honey ...	2 ditto ..	Relieved..		3 gr. 3tiis horis.
10	29	James Belard.	6 months.	Cured	This was a very obstinate case.	Ditto.
11	30	John Cassidy.	2 months.	Relieved..		Ditto.
12	36	Patrick Cavannah..	3 ditto ..	Cured	Had eight paroxysms after taking the quinia.	Ditto.
13	39	Charles Doyle	2 ditto ..	Ditto		Ditto.
14	26	Michael Farrell. ...	6 weeks ..	Ditto		Ditto.
15	41	Daniel O'Brien. ..	2 months.	Ditto		Ditto.
16	29	John Shannon.	1 year ..	Ditto	This patient took the sulphate for three months before he was discharged cured.	Ditto.
17	33	James Brenand ..	6 months.	Ditto		Ditto.
18	52	Daniel M'Carthy ..	18 months.	Relieved...	Afterwards cured by the liquor arsenicalis.	5 gr. 3tiis horis.
19	48	John M'Nalley ...	2 months.	Cured		3 gr. 4tis ho.
20	22	Edward M'Kue ...	6 weeks ..	Ditto		Ditto.
21	32	Henry Crompton...	6 months.	No benefit.		Increased from 3 to 6 gr. 3tiis ho.
22	18	John M'Lean	7 weeks ..	Cured		3 gr. 4tis ho.
23	54	Patrick Barney. ...	3 months.	Relieved ..		Ditto.
24	50	Daniel Courry.....	6 months.	Ditto		Ditto.
25	44	James Cunningham.	13 weeks...	Cured		Ditto.

In several of the above cases, the sulphate of quinia proved eminently useful after the stomach had repeatedly rejected the bark, both in the forms of powder, infusion, and decoction.

In intermittents, attended with irritability of the stomach, this salt will be found an invaluable remedy. From its possessing the essential properties of the bark in a concentrated state, it has the great advantage of producing, when exhibited in small doses, the same effects as that substance, without inducing nausea, or any other unpleasant symptom. Dr. Relph has correctly observed, "that in some conditions of the stomach, the powder of none of the species (of bark) can be taken in such large and repeated doses as many intermittents require; besides, a considerable degree of nausea and sickness often accompanies these disorders through all their stages. It therefore becomes necessary (he continues) to employ some other preparation of this medicine, more likely to agree with the stomach, and in which the dose of the bark is not unnecessarily enlarged by any of its effete and insoluble matter; for I conceive that in most instances, it is owing rather to the quantity than to the quality of this substance that it offends the stomach*." In the sulphate of quinia we possess a preparation which is admirably adapted for use in the morbidly irritable state of stomach noticed by Dr. Relph. It would be superfluous to enumerate the *various* affections in which the salt under consideration may be advantageously employed; I shall therefore merely mention a few of those disorders in which it appears to me

* Inquiry into the Medical Efficacy of the Yellow Bark, p. 131.

to possess peculiar advantages. I have on several occasions experienced its efficacy in infantile remittent fever, a disease mostly attended with a rapid loss of strength, and an irritability of stomach which does not admit of the administration of the ordinary preparations of bark. It may be given in small doses with the most decided benefit. In *bilious fever* it is particularly serviceable; and I have been informed by a very intelligent friend, that in the more severe forms of that disease, as occurring in the West Indies, it has been prescribed with manifest advantage*. The sulphate of quinia also proves a valuable remedy in *those ulcerations of the cornea* which not unfrequently occur in the purulent ophthalmia of infants, when the stomach will not retain either the extract or any other form of bark. In several of these cases I have seen immediate benefit obtained from its use. My friend Mr. Wilson (formerly surgeon to the Eye Institution in this town) tells me, that he has employed this salt in many instances of sloughing cornea, with highly satisfactory results. Mr. Ryan, of the National Eye Institution in Dublin, also states, that he has lately exhibited the sulphate of quinia with great benefit in that morbid

* In further proof of its utility in that climate, I may state, on the authority of a distinguished officer, Colonel Shaw, that he was requested by an agent in the West Indies, to obtain for him a supply of the sulphate of quinia at *any price*, as its remedial virtues were held in the highest estimation. This happened when the sulphate was very expensive.

condition of the cornea*. In *dyspepsia*, and *debility of the stomach*, I have found this salt very useful. In some cases of *chorea* (as will be shewn in my remarks on that disease) I have also exhibited it with success. There is another malady in which I cannot too strongly represent the virtues of the sulphate of quinia. I allude to the *malignant form of variola* in children. During the progress of this affection, severe vomiting is a frequent and dangerous symptom, as it not merely reduces the strength of the patient, but prevents us from employing those means which are best calculated to remove the disease. In two striking instances of this kind, I feel satisfied that life was saved by the timely employment of this salt, combined with a few grains of sugar. A grain and a half was taken every hour until such time as it was thought proper to extend the intervals between each dose.

In the three following cases of neuralgia, I also exhibited the sulphate of quinia with success.

CASE I.

A young woman had suffered for several months from violent paroxysms of pain in the seat of the infra-orbital nerve, which continued for several minutes, and recurred thrice, and sometimes oftener, daily. She had ineffectually resorted to alteratives, blisters,

* Transactions of Association of Fellows and Licentiates of the King and Queen's College of physicians, vol. v, p. 1.

fomentations, anodynes, and stimulating liniments. After a liberal use of purgatives for three days, I ordered her to take four grains of the sulphate of quinia every third hour. In the course of a few days she experienced great relief from the medicine. She continued it for nearly two months, when she felt completely well. The pain, however, returned in about six months afterwards, and it was again shortly removed by the same remedy.

CASE II.

ELIZ. WEAVER, 32 years of age, was suddenly seized with a most acute pain in the left cheek, affecting principally the facial nerve. The paroxysm lasted nearly an hour, and then ceased. It returned, however, on the following morning, and she had mostly experienced two attacks in the day during several weeks, before she became an out-patient of mine at the Infirmary. She was immediately directed to take the sulphate of quinia, in the same proportion and at the same intervals as in the preceding case. In the course of three weeks the complaint was entirely subdued, and she was discharged cured.

CASE III.

A young woman from the neighbourhood of Burnley consulted me in the spring of 1827, respecting a violent darting pain in the right side of

the head and face, which had tormented her, at times, for several months. Leeches, blisters, and various kinds of liniments had been used, without affording her any relief. I prescribed five grains of the sulphate of quinia every fourth hour. The medicine was taken regularly for six weeks, when the complaint was entirely removed, and she has had no relapse. In a disease so peculiarly painful as neuralgia, it is well to know that the sulphate of quinia may occasionally prove useful, even after the failure of other remedies.

Such are the chief affections in which I have found the sulphate of quinia *particularly* valuable, but its use may be advantageously extended to the numerous class of diseases, for the removal of which the bark is daily employed*. With regard to the dose of this salt, I may remark, that some practitioners appear to me to be in the habit of prescribing it in unnecessarily large quantities. The ordinary dose in intermittents is five grains every four, five, or six hours; whereas I have rarely exceeded three grains at the same intervals, as this proportion has been sufficient to produce the desired effect†. The following formulæ have been introduced into the last edition of the Pharmacopœia of the Hospital.

* M. Pointe has published some observations on the value of friction with the sulphate of quinia on the gums and mucous surface of the lips, in gastro-enteritis, with intermitting and remitting fever. — *Revue Medicale*, October 1826, p. 153.

† This corresponds with Dr. Brown's experience also. (See *Essays*.)

MISTURA QUININÆ SULPHATIS.

℞ Quininæ Sulphatis, gr. xij.
 Acidi Sulphurici diluti, m. xxx.
 Aquæ, f. ℥ xij.
 Misce.

PILULÆ QUININÆ SULPHATIS.

℞ Quininæ Sulphatis, gr. xij.
 Glycyrrhizæ Radicis contritæ, gr. x.
 Syrupi, quantum satis sit.

Simul contuade donec corpus unum sit; dein finge in pilulas xij æquales*.

* I have employed the terms *Cinchonia* and *Quinia*, because I consider them less objectionable than the lengthened ones, *Cinchonina* and *Quinina*. Dr. Elliotson seems to think otherwise, for he expresses a fear lest the term *Cinchonia* should be mistaken for *Cinchona*. This observation, however, cannot apply to *Quinia*, and from the greater facility with which quinia can be obtained, there is not any great chance of the *cinchonia* occurring so frequently in prescriptions as to occasion an ambiguous abbreviation of its name.

ON GENTIANA.

GENTIANA was first obtained from the root of the gentiana lutea, by MM. Henry and Caventou. These able chemists were both engaged in an analysis of gentian at the same time, without any knowledge of each other's proceedings. Finding their results to be very similar, they agreed to publish them together. "Nul doute (says M. Henry) que la substance obtenue, soit par l'eau soit par l'alcohol, ne soit analogue au principe amer décrit par Thomson, dans son systeme de chimie. Nous avons répété, avec la gentiane, toutes les experiences publiées par M. Boullay, Journal de Pharmacie, tom. v, p. 8, 1819, sur le principe de la coque du Levant, sans y reconnaître la moindre trace d'une matiere analogue aux alcalis, &c.*" Magendie first made trial of gentiana upon his own person. He swallowed two grains dissolved in alcohol, which occasioned extreme bitterness, and some degree of heat in the stomach. I have myself taken the same quantity, and with a like result. I have exhibited gentiana with advantage in some instances of dys-

* Journal de Pharmacie, tom. v, p. 108.

pepsia, attended with an irritability of stomach that would not admit of the employment of bulky medicines. I have found the form of pill preferable to that of tincture, as proposed by Magendie. I have generally ordered one grain to be taken twice or thrice daily. I could relate several cases illustrative of the benefit obtained from gentiana in a debilitated state of stomach; but such a detail is unnecessary, as it would be merely to state that a patient laboured under dyspeptic symptoms, took the gentiana, and was restored to health. *Gentiana is not likely to prove so valuable an addition to the materia medica as some of the other vegetable principles before noticed; nor is it indeed calculated to supersede the use of the infusion and compound tincture of gentian, since few instances of disordered stomach occur in which those preparations may not be employed with equal utility. Gentiana does not tend, like the plant from which it is obtained, to keep the bowels open.*

ON EMETINA.

IN 1817, MM. Pelletier and Magendie published the results of their analysis of the roots of the several species of ipecacuanha, from which it appears, that each variety owes its emetic property to a peculiar principle named emetina. They have also proved by several experiments, that this substance, in a dose of from half a grain to two or three grains, occasions vomiting, followed by a long sleep; and in the proportion of ten grains, that it produces frequent vomitings, and death within twenty-four hours, from inflammation of the lungs and intestinal canal*. Magendie took two grains of emetina fasting, and in the course of three quarters of an hour he experienced some degree of nausea, and shortly afterwards repeated attacks of vomiting, which were succeeded by a marked disposition to sleep. Several of his pupils also made trial of emetina in the same quantity, and with similar results. Pelletier and Magendie exhibited emetina in several diseases, and they inform us, that they derived from it all the ordinary effects of ipecacuanha, without having to contend with the disagreeable odour and taste which belong to that medicine. They found it particularly useful in chronic pulmonary catarrh and protracted diarrhœa. They relate the case of a female, 60 years of age, who had laboured under chronic

* Annales de Chim. et de Phys. tom. iv, 172.

pulmonary catarrh nearly three years, attended with distressing fits of coughing each night and morning. The emetina was employed for six weeks in the dose of an eighth of a grain, with complete relief to the symptoms. From their statements in favour of emetina, I was led to employ it in several affections, in which the use of some preparation of ipecacuanha seemed to be indicated, and the following are the results of my experiments with this substance. In the dose of five grains, dissolved in two or three ounces of rose water, it has proved an active emetic. In the proportion of half a grain, every five hours, it has acted as a mild diaphoretic; and in the dose of a fourth of a grain, every three hours, as an expectorant. It has produced these effects with great certainty. In some instances of *dysentery, chronic diarrhæa, and chronic pulmonary catarrh*, I have derived from the emetina, in combination with a small proportion of opium, much benefit*. I have generally used it in the form of a pill, with a small quantity of aromatic confection. My trials with emetina do not lead me to recommend it as a substitute for the ordinary powder of ipecacuanha, except as a remedy for children, and in certain cases of idiosyncrasy in which the efflu-
vium of that drug is found to occasion highly pernicious effects. Several examples of this kind are upon record†.

* It may be proper to observe, that in these cases the impure or coloured emetina was employed.

† Vid. Medical and Physical Journal, vol. xxiii.

COMPARATIVE VIEW

OF

THE REMEDIES OF CHOREA.

It may, perhaps, at first, appear somewhat superfluous to enter into a consideration of the remedies of chorea, since the general principles of treatment in that disease are well understood; but when it is recollected that much diversity of opinion still exists respecting the best mode of treating this singular affection, the importance of establishing the speediest and most successful plan of cure will be duly appreciated. With the view of determining their comparative efficacy, I have in many instances employed *singly* the several remedies recommended in chorea, including purgatives, antispasmodics, as *camphor, opium, valerian, sulphuric æther, musk*; tonics, as *ammoniated and sulphate of iron, oxide and sulphate of zinc, nitrate of silver, ammoniated copper, carbonate of iron, the arsenical solution, and sulphate of quinia*; also *iodine, strychnia, electricity, the shower bath, friction* with the tartar emetic ointment, and blisters along the whole course of the vertebral column. The disease has been removed by each of

the above means of cure. I shall not dwell upon the nature of chorea, as the account already given of that affection by Dr. Hamilton, in his valuable work on the utility and administration of purgative medicines, renders such a task quite unnecessary. It must be admitted, that purgatives alone not unfrequently fail in subduing the convulsive motions of chorea; but still it is possible that such a result may occasionally be owing to a want of due perseverance in their employment. "Whoever undertakes the cure of chorea (says Dr. Hamilton) by purgative medicines must be decided and firm to his purpose: the confidence which he assumes is necessary to carry home to the friends of the patient conviction of ultimate success. Their prejudices will otherwise throw insurmountable obstacles in the way. Half measures, in instances of this kind, will prove unsuccessful; and were it not for perseverance in unloading the alimentary canal, the disease would be prolonged, would place the patient in danger, and thus bring into discredit a practice which promises certain safety*. Chorea, according to the same author, is generally cured in ten days or a fortnight, from the commencement of the course of purgative medicines. I have myself rarely met with examples of this affection which yielded so quickly to purgatives; but on the contrary, several weeks have sometimes elapsed before a perfect cure has been established. Dr. James Johnson's expe-

* Vid. opus ante. cit. page 148.

rience is also opposed to that of Dr. Hamilton ; for he remarks, " we may state what we believe a great number of practitioners could substantiate, that purgatives are not even generally successful in this disease, when trusted to alone. We have been so often disappointed in following up Dr. Hamilton's directions, that we have since laid them aside, except as auxiliaries. From the oxide of zinc, indeed, with alteratives and antispasmodics, we have derived upon the whole the most satisfactory results*." Dr. Reeves says, that in the course of sixteen years, he had seen thirty-five cases of chorea, all of which recovered, except one, and under every variety of treatment, from the most powerful down to the most inert and apparently inefficacious remedies †. " During a period of thirty-six years," he observes, " the medical department of this institution (the Norfolk and Norwich Hospital) has been conducted by eight different practitioners ; their practice has varied considerably ; yet in the cure of this disease, success has been nearly equally divided amongst them. The late Dr. Lubbock always prescribed preparations of steel for the cure of chorea ; he never employed purgatives or any evacuations ; and he has told me he never failed of success." My relative Dr. Bardsley informs me, that in the course of his practice for three-and-thirty years at the Manchester Infirmary, he never met with an incurable case of

* *Medico-Chirurgical Journal*, vol. ii, page 645.

† *Edinburgh Medical and Surgical Journal*, vol. viii, page 313.

chorea. It must be admitted that many severe instances of this disease obstinately and permanently resist the purgative plan of treatment, when other remedies afterwards prove successful; and it is equally certain, that in numerous cases, purgatives alone will effect a complete cure. There is no cause to apprehend debility from the moderate exhibition of purgative medicines, for so far from loss of strength being induced, it is surprising to see how rapidly some patients, particularly young girls, acquire flesh under their use. I shall here mention, in a few words as possible, what appears to me to be the best mode of treating chorea. These views are not offered as altogether novel, but merely as derived from the extensive opportunities I have enjoyed for accurately observing the effects of different remedies in this disease. As a detail of many examples of chorea could answer no useful purpose, I shall merely select a few, by way of illustration, and insert the others in a tabular form.

In the treatment of chorea, it is proper to commence with purgatives (as recommended by Dr. Hamilton), and to continue their *sole administration*, until the bowels have been brought into a natural condition, and the alvine evacuations have assumed a healthy appearance. Occasionally, several weeks elapse before such an effect is produced. At this period, although little or no diminution in the violence of the irregular involuntary actions of the muscles has taken place, antispasmodics should be freely employed. Few instances

of chorea occur in which purgatives are not at first indicated, for the intestines are mostly loaded with an accumulation of indurated feculent matter. The evacuations for several days, and sometimes weeks, remain scybalous and particularly fœtid. It will often be found, even after the healthy functions of the bowels have been restored, the appetite has become good, and bodily strength recruited under a long course of purgatives, that the convulsive motions have undergone little or no change, and the disease continues as formidable as ever. It is in these cases that *antispasmodics* prove eminently useful. It must be admitted, that in many instances chorea may be cured by antispasmodics *alone*, exhibited from the commencement to the termination of the disease; but it is not inquired what individual remedy can cure chorea, but what method of treatment is the *speediest and most invariably successful* in that affection. My experience assures me that the employment of purgatives and antispasmodics, in the manner above described, constitutes the best practice in chorea. I have chiefly prescribed musk and camphor, in the dose of four grains each, every five hours, and directed four or five ounces of the *mistura assafœtidæ*, with twenty, twenty-five, or thirty drops of laudanum (according to the age of the patient), to be used as an enema every evening. With a single exception, this practice has never failed. Relapses have taken place in several cases, but the disease has been again removed by the same

means. In the instance of a young woman 18 years of age, the disease recurred four times, but was at length permanently cured. When the head is painful, as often happens with young females labouring under chorea, leeches and blisters, applied to the temples or behind the ears, prove valuable auxiliaries.

CASE I.

MARGART ALRED, admitted on the 28th March, 1824, aged 12 years.

At the time of her admission into the Hospital, she had laboured under the following symptoms for six weeks. Severe pain in the fore-part of the head with occasional giddiness, which was much increased by a bending posture. Irregular and involuntary motions of the head, and upper and lower extremities, with frequent agitation of the muscles of the face, and distortion of the mouth when she attempted to speak. Deglutition and articulation very imperfect. In walking, one leg is dragged after the other. She remains quiet during sleep. Bowels, by report, open. Appetite tolerable. Tongue rather white. Not much emaciation. Three leeches were applied to each temple, with the view of removing the pain experienced in the head. A senna draught was directed to be exhibited immediately, and two of the compound aloetic pills

were ordered to be given twice a day. Report of 3d of April: pain in the head so much relieved by the leeches that it was found unnecessary to repeat them. The draught produced several dark-coloured lumpy and fœtid evacuations. Pills have been taken regularly, and the bowels have been moved twice or thrice each day since last report. Irregular motions and other symptoms unchanged. 8th. Fæces still dark-coloured, and offensive. Little, if any, amendment. To continue the pills, and to repeat the opening draught every other morning. 12th. Bowels regularly moved three or four times in the day. Stools much more natural in their colour, consistence, and smell. Involuntary motions of head and extremities not in the least diminished. Deglutition and articulation equally imperfect. Shortly after she awoke, on the morning of the 9th, she was seized with severe pain in the left knee, for the removal of which, recourse was had to leeches and warm fomentations. To continue the pills and draught. 16th. Involuntary motions have somewhat subsided. Articulation rather more distinct. Deglutition less difficult. Appetite moderate. Fæces copious, of healthy colour and consistence. To continue the pills, and to take the purging draught occasionally. May 4th. From the date of the last report up to the present period, the progress towards recovery has been extremely slow, and the patient feels weaker. To omit the aloetic

pills. Ordered to take three grains of musk and camphor in the form of pills every five hours, and to have the following injection each evening :

℞ Mist. assaf. f. ℥iij.

Tæ. opii, gutt. xxv.

16th. Is very much better, and gains flesh and strength daily. Bowels freely open without medicine. To continue the same remedies. 2d June. She has now almost the full command over the affected limbs, walks well, and articulates distinctly. Fæces copious and quite natural. To continue. 14th. She is now in perfect health. Ordered to be discharged.

REMARKS.

This was one of the most severe cases of chorea that I had ever witnessed. I accordingly felt very anxious to give the purgative plan of treatment a fair trial. The case proved obstinate and protracted. The appearance of the alvine evacuations, and the quantity of purgative medicine taken before they assumed a more natural character, shew that the bowels were at first in a very deranged state, and that they contained an accumulated mass of feculent matter. In this instance, the involuntary motions seem to have been only slightly influenced by the condition of the bowels, for even when the stools became quite natural, but little diminution in the violence of the convulsive agitations of the body could be detected; at this period, however, anti-spasmodics very shortly subdued the disease.

CASE II.

SARAH CROSSLEY, aged 12 years, was admitted an in-patient on the 13th of April, 1824, when the following history of her symptoms, together with the treatment adopted, were entered into my private journal. Her whole body is affected with a constant convulsive agitation, and she cannot continue in one position for a single minute, nor walk to any distance without being in danger of falling; and when she attempts to walk the right leg is dragged. Her head is frequently drawn to one side, and the features of the face are at times ludicrously distorted. Her articulation is imperfect. During sleep, the convulsive motions are suspended. Appetite good, tongue clean, belly rather costive. She has suffered for several months from pain in the head. These symptoms have existed for more than three months with different degrees of violence. She was ordered to take two ounces of the senna mixture of the house immediately, with directions for the dose to be repeated every three hours until the bowels were freely evacuated, and to commence in the morning with two aloetic pills three times daily. 16th. The alvine evacuations procured by the purging mixture were copious, though rather lumpy and foetid. Involuntary motions equally strong. To continue the pills, and to take two ounces of the senna mixture on alternate mornings. 19th. Fæces abundant and less lumpy. Yesterday evening she experienced a

sudden and severe cerebral attack, followed by delirium, oppression of the chest, and convulsive respiration. Irregular motions were violent, and not diminished in bed. Pulse quick. Skin hot. Head to be shaved, and a blister applied to the nape of the neck. Pills to be continued. 20th. Blister has risen well. She is quite sensible this morning, and seems rather more calm and easy, but is much enfeebled. Bowels freely moved. Appetite nearly gone. To continue the pills, and to take ten drops of the tinctura opii in the form of draught at bed time. 21st. Slept better during the night, but still remains in a dangerous state. Is incapable of raising herself in bed, or of sustaining a sitting posture when placed in it. Looks languid, pulse feeble. To omit the pills. The opiate to be repeated at bed time. To have six ounces of port wine in the day. 22d. Little change. Pulse rather stronger. Belly loose. To repeat draught, and to take two grains of musk and camphor in the form of pill every four hours. To have a glyster immediately, with three ounces of the assafoetida mixture, and fifteen drops of laudanum. Wine to be increased to eight ounces daily. 23d. More tranquil, and had a much better night. Pulse stronger. Two evacuations since last report; loose, and rendered dark by the musk and wine. To continue the musk pills, and repeat the glyster in the evening. 24th. Rather improved: wine to be increased to ten ounces daily. To continue the remedies. 25th. Appears more revived.

Irregular motions rather abated. Wine much relished, and a little sago has been swallowed. To continue the medicines and wine. 27th. Begins to improve: expression of countenance more lively. Pulse much firmer; wine relished; fæces rather copious but dark. To continue the remedies. 29th. Much better. Irregular spasmodic actions have greatly subsided. Two good nights. Appetite improved. To continue. 3d May. Recovers her flesh and strength and is cheerful, and can raise herself in bed without help. Irregular motions nearly gone. To omit the glyster, and to take the pills only twice a day, and to have only six ounces of wine in the twenty-four hours. 13th May. During this interval she has rapidly recovered her strength and the entire command of the affected muscles. She was ordered to be discharged on the following Monday.

REMARKS.

This was an obstinate case, and, indeed, I had more than once despaired of saving the girl's life. The purgative plan of treatment was of necessity relinquished, for the rapid sinking of the vital powers imperatively called for the liberal use of stimulants and antispasmodics; and under their employment the strength of the system was supported, and the involuntary muscular motions subdued. This patient suffered a relapse in the course of nine months after she was discharged. Purgatives were

regularly given to her for ten weeks, and the alvine evacuations became quite natural, but the symptoms remained unchanged. Antispasmodics afterwards effected a permanent cure.

CASE III.

ANN HEROD, a girl of 12 years of age, admitted an in-patient on the 28th of March, 1825.

The muscles of the body generally were severely affected with convulsive motions, and the involuntary movements of the inferior extremities in particular were so violent, that the patient was incapable of sustaining for a moment the erect position; and, indeed, when placed in her chair it required the constant attention of the nurse, or of some one of the patients, to prevent her, at times, from falling out of it. Muscles of the tongue so much affected that the power of articulation was entirely suspended. Deglutition extremely difficult. Pain in head constantly present. Abdomen rather hard, prominent, and somewhat sore on pressure. Appetite unimpaired. Bowels said to be regular. Tongue white. Flesh wasted, strength impaired. During sleep the motions are less violent, but do not entirely cease. This disease is of three months' continuance. Three leeches were directed to be applied to each temple, and a draught with two ounces of the senna mixture to be exhibited immediately, and to be repeated every three hours until the bowels were freely

opened. She was ordered to commence on the following morning with two of the compound aloetic pills twice a day. 3d April. Leeches bled copiously, with immediate relief to the pain in the head. Bowels (though by account regular) were found to be much constipated. Draught twice repeated before an evacuation could be procured, which was scybalous, dark-coloured, scanty, and peculiarly offensive. Involuntary motions of muscles unchanged. Pills to be continued, and twelve grains of the compound jalap powder of the Hospital to be taken every morning*. 6th. Bowels freely moved by powders. Fæces still lumpy and fetid. Two and frequently three evacuations in the course of the day. Last night the pain of head returned with redoubled violence. Other symptoms continue the same as on her first admission. Repeat the leeches to temples, and continue the powder and pills. 10th. Pain of head again relieved by leeches. Alvine evacuations copious, of more natural colour and consistence, and less offensive. Irregular motions do not seem to be less violent. Being fearful, as the gums were now tender, of inducing salivation from the use of the powders, I ordered her to discontinue them, and to take the pills three times in the day. Senna draught to be exhibited every other morning. 13th. Medicines have been exhibited with great regularity. She has three and four eva-

* One scruple of the Pulvis calomelanos cu. jalapa of the Hospital Pharmacopœia contains five grains of calomel.

uations in the course of the day, which are in every respect much more natural. Pain in the head entirely gone. Irregular movements unchanged. Her tongue is still moved quickly forwards and backwards, though it appears to be rather more obedient to the will. Articulation and deglutition slightly improved. Last evening Mr. Jesse, the house surgeon (then officiating for the apothecary), ordered a draught with half a drachm of the tincture of valerian, and six drachms of the common aperient mixture of the house. The next morning I explained to Mr. Jesse, that I did not wish any medicines to be given which might interfere with a fair trial of the purgative plan of treatment. The use of the former remedies was therefore resumed. 28th. Bowels have been very regular, and the *fæces* preserve a healthy character. Involuntary motions equally violent. She was now directed to make trial of antispasmodics in the same manner as in the preceding case. Purgatives to be omitted. 14th May. Her improvement is very perceptible. She is capable of sustaining the sitting posture with tolerable composure, but cannot keep erect without assistance. Bowels regular. To continue the same remedies. She is so much better as to be able to feed herself, and to walk with the assistance of the nurse. Appetite rather keen. Countenance improved. To continue. 4th June. She enjoys almost a full command over the affected muscles, and walks with tolerable steadiness. Articulation more distinct. Swallows

her food with facility. To continue. 12th. Irregular motions are entirely gone. Debility excepted, she appears convalescent. To take three ounces of port wine daily. 24th. Is free of ailment. To be discharged cured at the next meeting of the weekly board.

CASE IV.

THOMAS GRINDROD, 14 years of age, was admitted on the 28th of April, 1826, affected with involuntary motions of the inferior extremities, and an irregular action of the muscles of the right arm. The muscles of the head and face were under command. He could walk, but his gait was very unsteady. Circulation but slightly impaired. Appetite good. Tongue rather white; bowels said to be regular. Head at present quite free from pain, though he says that it ached very much when his present symptoms first commenced, which was about five weeks ago. To have a castor oil draught immediately, and to commence to-morrow morning with the compound aloetic pills, taking two twice a day. May 1st. Castor oil produced one or two scanty stools, of a pale yellow colour and somewhat hard consistence. Three copious evacuations followed the pills. Involuntary motions the same. Walks with equal unsteadiness. To continue the pills. 4th. Has had several stools each day of a natural colour and consistence. Other symptoms

unchanged. 24th. Alvine evacuations copious and quite natural. To continue the same remedies. Having persevered with the purgative medicines until the 2d of July without diminishing the violence of the irregular motions, it became necessary to call in the aid of other remedies. A combination of musk and camphor and the assafoetida injection were accordingly employed. 16th. Convulsive motions diminished. He can now take a cup in his right hand and convey it directly to his mouth. Bowels regular. To continue. 28th. During the last six days, the convulsive motions have scarcely been observed, and he has gained much strength. To continue. 4th August. The patient is now in perfect health, and wishes to be discharged.

This and the preceding case also prove that purgatives alone are unequal to the cure of every instance of chorea; and strikingly shew the almost immediate benefit that was derived from the use of antispasmodics, after the bowels had assumed their healthy functions. The same relief might have been sooner obtained by an earlier employment of antispasmodics, but it was wished to give the purgative medicines a fair trial.

The following tables exhibit the effects of *purgatives alone*, and of *purgatives and antispasmodics* in the treatment of chorea; and satisfactorily prove, that this disease is both more *certainly* and more

speedily removed by the two kinds of remedies, when employed as in the preceding cases, than by either of them exhibited *singly*.

TABLE OF CASES OF CHOREA TREATED BY PURGATIVE MEDICINES ONLY.

No.	Name.	Age.	How long ill.	Result.	Length of time under treatment.	Remarks.
1	Mary Kenyon... ..	16	3 months	Cured	4 weeks.	Afterwards cured by anti-spasmodics.
2	Thomas Harrison.	14	6 weeks	Cured	5 weeks.	
3	Peter Dodson.....	13	2 months	Relieved	2 months	
4	Catherine Hudson.	15	5 weeks	Relieved	9 weeks	Ditto.
5	Ann M'Ginnier.....	9	4 weeks	Cured	3 weeks.	Afterwards cured by anti-spasmodics.
6	Mary Broadbent...	13	9 weeks	Relieved	10 weeks	
7	William Warren...	19	2 months	No improve- ment	3 months	
8	Jacob Taylor	15	3 months	Cured	8 weeks.	Since dead. Afterwards cured by anti-spasmodics.
9	Eliz. Buchanan ...	12	2 months	Cured	5 weeks.	
10	John Arkroyde.....	15	4 weeks	Cured	Ditto.	
11	Mary Crompton ..	12	6 weeks	Cured	6 weeks.	
12	George Ashwell...	14	Ditto	Cured	4 weeks.	
13	Isabella Telford...	15	2 months	Cured	7 weeks.	
14	Jane Hallowell ...	13	Ditto	Relieved	6 weeks	
15	Ann Darlington..	15	6 months	No better	3 months	
16	Jane Watson	14	5 weeks	Cured	4 weeks.	
17	Joshua Rayner	15	3 weeks	Cured	3 weeks.	
18	Samuel Wagstaff..	16	2 months	Cured	6 weeks.	
19	Hannah Johnson..	10	Ditto	Cured	4 weeks.	
20	Mary Green	11	Ditto	Cured	5 weeks.	

TABLE OF CASES OF CHOREA TREATED BY PURGATIVES AND ANTISPASMODICS.

The Purgative Medicines were only employed until the Bowels became regular.

No.	Name.	Age.	How long ill.	Result.	Length of time under treatment.	Remarks.
1	Eliz. Lund	16	6 weeks	Cured	3 weeks	
2	Mary Roberts	15	3 months	Cured	5 weeks	Three weeks elapsed, before the alvine evacuations became natural.
3	George Jackson ..	12	4 months	Cured	4 weeks	
4	James Twiss	9	6 months	Cured	5 weeks	This boy had a relapse, but was again cured by the same remedies.
5	Bridget Roden	11	3 weeks	Cured	2 weeks	
6	Sarah Eccles	14	2 months	Cured	4 weeks	Since dead of Phthisis.
7	Ann Sheridan	12	2 months	Cured	3 weeks	
8	James Young	18	4 months	Cured	6 weeks	A very severe case.
9	Sarah Slater	16	3 months	Cured	3 weeks	
10	Mary Long	12	3 weeks	Cured	10 days	
11	James Trainer	15	6 weeks	Cured	2 weeks	Suffered a relapse. Was again dischd. cured.
12	Jaue Entwistle ...	14	6 weeks	Cured	3 weeks	
13	John Kerr	13	4 months	Cured	5 weeks	He took purgatives for nearly a month before the bowels could be said to be regular.
14	Sarah Pilson	14	3 weeks	Cured	11 days	
15	Margt. Fitzgerald	17	6 months	Cured	2 months	This was an extremely obstinate case.
16	Matthew Short ...	10	1 month	Cured	16 days	
17	Mary Fortune	13	2 months	Cured	3 weeks	
18	Mary Edwards	18	9 months	Cured	10 weeks	She had previously tried various remedies without permanent benefit.
19	Joseph Yates	15	5 weeks	Cured	4 weeks	
20	Sarah Bracegirdle	14	3 months	Cured	3 weeks	

CASES OF DIABETES,
WITH REMARKS ON
THE TREATMENT OF THAT DISEASE.

SAMUEL SUMNER*, aged 38, a weaver, was admitted into the Manchester Infirmary, on the 10th of April 1824. He complained of a frequent desire to void his urine, which was of a pale straw colour, had a sweet taste, and a smell like that of new hay. He was under the necessity of rising almost every half hour, during the night, to empty his bladder. His thirst was very urgent, and his appetite so voracious that he would sometimes eat until his stomach was obliged to disgorge its contents. He suffered much from severe pain and weakness in the loins. His skin was dry and shrivelled; and he informed me that violent exercise now failed to produce perspiration, though, about four months ago, his linen was frequently damp when at work and in bed. His gums were spongy and ulcerated. Pule 96, and of a good strength. Tongue rather white. Bowels mostly constipated. There is no phymosis. His

* This case was published in the *Edinburgh Journal of Medical Science*.

habits have, at all times, been regular and temperate. His weight is 139 pounds. About the beginning of November 1823, he first noticed the violent thirst, and increased urinary discharge, which he supposes to have been induced by a frequent exposure to wet and cold, when in a state of profuse perspiration. He also suffered much, at that time, from mental distress, occasioned by the sudden loss of his wife. He had measured the quantity of urine, during the last fortnight, and found that it amounted to 19 pints in the 24 hours. Judging, from the symptoms, that Sumner's disease was diabetes, I felt very anxious to make a fair trial of the remedial efficacy of a strict adherence to animal diet; and on mentioning my wish to the patient, he expressed himself as willing to adopt any plan of treatment I considered most likely to remove his distressing malady. He was accordingly ordered to abstain from bread, and every kind of vegetable matter, and to live solely on broth and animal food; and he was directed to use, for common beverage, the *potus acidi nitrici* of the *Pharmacopæia* of the Hospital, in the proportion of two drachms of diluted nitric acid to three pints of water. Fourteen leeches were applied to the region of the kidneys, and his bowels were copiously evacuated by the aid of castor oil. 13th. The pain in the loins has been greatly relieved by the leeches, and the animal food is much relished, and does not occasion any derangement in the functions of the stomach. Thirst diminished. He has

passed, within the last 24 hours, only 11 pints of urine, and taken of his nitric acid, diluted with water, 10 pints. The urine is whey coloured, and very sweet. Its specific gravity is 1.041; and one wine pint yields, on evaporation, 1 ounce 5 drachms and 5 grains of an extract, of the consistence and colour of treacle. It possesses no urinous odour. The acid is particularly grateful to him, as it abates his thirst and relieves his burning heat. His sleep is less disturbed by frequent calls, during the night, to void his urine. Ordered to continue his animal diet. 16th. He thinks himself better. In the last 24 hours the quantity of urine has amounted only to 9 pints, and the drink to 10. The urine continues sweet to the taste. The gums are not quite so spongy. His appetite is less voracious. Skin remains dry. Pulse 94. Bowels kept open by occasional doses of the common aperient mixture of the Hospital. 20th. Finds his strength recruiting: complains mostly of weakness in his knees. He has only made 8 pints of urine during the last 24 hours. Thirst less urgent, and appetite more natural. Animal diet to be continued. One pint of porter to be allowed daily.

20th to 26th April.

	Urine.	Drink.
May 22	9 pints.....	10 pints.
23	8½.....	9
24	8	10
25	7½.....	8
26	6	8

The urine is 2 pints less in quantity during the last 24 hours than it was on the 20th : specific gravity 1.032. Residuum, obtained by the evaporation of one pint of urine, weighs 1 ounce, 2dr. 12 grs. The patient seems much improved in general health, and strength. His weight is now 142 pounds, so that he has gained three pounds since his admission into the infirmary. His diet agrees very well with his stomach. It consists chiefly of fat mutton, beef-steaks, and eggs. He fancies himself almost capable of resuming his usual employment, and he is desirous of quitting the Hospital as soon as I may think proper, having left his young family in the charge of a female relative, whose means of support are quite inadequate to the supply of their numerous wants. Tongue much cleaner. Bowels regular without medicine. Pulse 90. Some moisture on the skin. To continue the same plan. 3d May. The quantity of urine (as will appear from the register) has varied from $7\frac{1}{2}$ to $5\frac{1}{2}$ pints. Its taste, the patient informs me, is much less saccharine, and its colour is considerably deeper.

26th April to 3d May.

	Urine.	Drink.
April 27.....	$7\frac{1}{2}$ pints	8 pints.
29.....	7.....	$8\frac{1}{2}$
30.....	$5\frac{1}{2}$	7
May 2.....	6.....	$7\frac{1}{2}$
3.....	$5\frac{1}{2}$	7

He gains strength and flesh daily, and does not experience any pain or debility in the lumbar re-

gion. He enjoys his porter very much. He adheres most strictly to his animal diet. 10th. He has passed about 6 pints of urine in the 24 hours since last report. One pint, on evaporation, left 9 drachms and 2 scruples of an extract, with a strong saline impregnation and urinous smell. The urine is scarcely sweet. He perspires during the night, and after retiring to rest is not obliged to rise more than twice to make water. Appetite nearly natural. Ulceration and sponginess of gums quite gone. Bowels regular, pulse 90, and of moderate strength. Countenance and spirits much improved. He entertains sanguine hopes of a favourable termination of his disease. Ordered to persevere with animal diet. 18th. During this interval, the urine and drink have nearly balanced each other, and both amount to rather more than 5 pints in the 24 hours. The smell and taste of the urine are now almost natural. Its specific gravity is 1.023. He never feels thirsty except at meals. He now weighs 145 pounds. He complains of a slight tickling cough during the night, but is free from pain in the chest. He is permitted to walk in the garden, and finds himself able to continue the exercise for a considerable time, without experiencing any sensation of lassitude or debility. He feels confident that he can resume his work. Ordered to continue the diet, and to use the linctus scillæ of the Hospital for the cough. 26th. The register will be found to point out only a very inconsiderable variation since last report.

20th to 26th May.

	Urine.	Drink.
May 20	5½ pints.....	6 pints.
22	4½	5
24.....	6	6½
25.....	5½	6
26.....	5	5½

The skin has become softer, and he now perspires rather freely. Cough quite gone. In consequence of the earnest wish expressed by the patient to leave the Hospital, and from the belief that he might be able to support his family by his own labour, I ordered him to be made an out-patient*, at the same time requesting him to keep a daily register both of his drink and urine, and to adhere, with the same strictness, to the sole use of animal food. I saw nothing more of him until the 16th of June, when he gave me the following report:—

28th May to 15th June.

	Urine.	Drink.
May 28.....	5 pints.....	6 pints.
30.....	6	6½
June 4.....	6½	6½
8.....	5½	6
12	5	6½
15.....	5½	5

He brought me some urine which he had passed in the early part of the morning. Its specific gra-

* Out-patients are such as attend at the Infirmary two days in the week to receive their medicines.

vity was ascertained to be 1.024. He declared that he had abstained altogether from vegetable food. He follows his work with perfect ease to himself. His thirst and appetite remain moderate, and his mind is quite cheerful. His bowels require the occasional aid of purgatives. Some compound colocyynth pills were ordered for him, and the injunction to persevere with the animal regimen was repeated. 10th July. Since last report, a considerable augmentation has taken place in the quantity of the urine. The patient's register points out as much as $10\frac{1}{2}$ pints of urine in 24 hours, and 11 pints of drink, but the average quantity of both may be estimated at $9\frac{1}{2}$ pints. On inquiry, I found that he had been reluctantly compelled, in consequence of the high price of meat, and the low rate of weavers' wages, to relinquish his animal diet, and to satisfy his hunger with bread, cheese, potatoes, &c. To this cause he attributes the increase of the diabetic symptoms. His skin has become dry, appetite keen, and thirst urgent. Tongue white. Feeling himself so much worse from the use of vegetable food, and being too poor to purchase butchers' meat, he begged, very earnestly, to be re-admitted as an in-patient. On the 12th the quantity of urine and drink in the 24 hours was found to be rather more than 10 pints. I mentioned to the patient my intention of trying the efficacy of venesection in removing his obstinate complaint, at the same time allowing him the ordinary diet of the house. To this proposal he cheer-

fully assented. He weighs 140 pounds, having lost five pounds since his discharge. Pulse eighty-six, rather firm. Bowels regular. 13th. Twenty-four ounces of blood were removed from the arm, in a full stream. He was not in the least faint. Pulse before bleeding eighty-two; after the operation seventy-four. He was desired to resist, as much as possible, the cravings of his appetite, and to repress his thirst, with the view of preventing a too great supply of new chyle. August 6th. The following table will shew the result of the treatment adopted since last report.

Date.	Urine in 24 hours.	Drink.	Spec. gra. of Urine.	Quantity of blood drawn.	Effect.	Weight 140 lbs.
July 15	10 pts.	11 pts.	1.034	℥xvj	Pulse less frequent.	
17	11	11	1.035	℥xvj	Similar.	
19	11	11½	.....	℥xvj	Little Change.....	139
22	12	12½	1.037	℥xij	Rather faint	139
24	12	13	.....	℥xij	More perceptible..	137
28	13	13½	1.038	℥xij		
30	14	14½	1.039	℥xiv		
Aug. 2	13½	14		℥xij	Weakness	137
4	14	14½		℥xiv		
6	13½	14	1.040	℥xiv	Great debility.	134

The quantity of solid extract obtained from the evaporation of a pint of urine amounts to 1 oz. 2 dr.

4 scr. 6 grs: it resembles treacle in its sensible qualities. His urine is of a pale colour; and he informs me, that his linen is occasionally stained by it. His gums are become sore, and his teeth are rather loose. Pulse slow and feeble. The serum of the blood, until the third or fourth operation, was rather milky, when it began to assume a greenish appearance. The crassamentum was soft and dark coloured. Skin harsh and arid. Countenance anxious. Mind much dejected. The state of the tongue is worthy of particular notice: during the last fortnight it has been covered with a dense, dark-coloured crust, which the patient is unable to remove; it is particularly disagreeable to him. Owing to the decline of the patient's strength, and the increase of the diabetic symptoms, I was resolved to push venesection no further, but to have recourse to the daily exhibition of opium. The common aperient mixture of the hospital was used, in order to prevent constipation. August 8th. The patient was accordingly ordered to take a pill containing one grain of opium three times in the day, and to continue a moderate use of the ordinary diet of the house. 12th. Makes no complaint of stupor or headach from opium. Urine and drink nearly the same as on the 6th. 17th. Considers himself rather better since he commenced with the opiate pills. Thirst less severe. Appetite very keen, but he uses his utmost endeavours to restrain it. Urine, in the twenty-four hours, amounts to twelve pints

and a half; drink to thirteen pints and a half. The specific gravity of the former is 1.039. Its sweetness and colour remained unchanged. Let half a grain of opium be added to each pill. 24th. The symptoms have been nearly stationary in this interval. Pills to be continued. September 2. The register points out little or no variation in the amount of the urine and drink every twenty-four hours. He still complains of considerable debility. Foulness of tongue continues. Pulse feeble. Skin parched; visage dejected; spirits very low. Let the dose of opium be increased to two grains, thrice a day. 8th. His head has been rather painful during the last three days, and he often feels drowsy. His bowels require the daily use of opening medicine. The diabetic symptoms continue nearly stationary. The specific gravity of the urine is now 1.038. The colour, smell, and taste of that secretion are not in the least altered. He still relishes the nitric acid beverage. He weighs 135 lbs. Pills to be continued. 17th. Urine in the twenty-four hours, thirteen pints; drink fourteen pints. Other symptoms the same. The patient begs to be allowed to discontinue the opiate pills, as he fails to derive any benefit from their use. He wishes to resume the animal regimen. At my request he agreed to persevere with opium for a short time longer. 26th. There has been but little fluctuation in the quantity of urine discharged, and drink used, in the twenty-four hours, within this

period. The present specific gravity of the urine is 1.038. The patient now weighs $135\frac{1}{2}$ lbs. Finding that Sumner had remained in the house a longer time than the rules of the Charity allow, I requested Mr. Worthington to let him be brought before the consultation of the Faculty of the Hospital, which meets on the first Thursday of every month: Present: Dr. Holme, Dr. Mitchell, Dr. Lyon, Dr. Carbutt; Messrs. Hamilton and Robert Thorpe. I mentioned to these gentlemen the results of the different modes of practice which had been adopted, as well as my wish, and that of the patient, to give the animal regimen another trial. They obligingly allowed him to remain in the house for this purpose. 13th October. Since the alteration of the patient's diet, an evident improvement has taken place. His thirst is much abated, and his tongue is become cleaner. The change in the state of the skin in so short a time is quite surprising, for it now feels soft and somewhat moist. The urine is less sweet, and of a deeper colour. The average quantity, during the last nine days, may be estimated at nine pints and a half each twenty-four hours; drink ten pints and a half. Specific gravity of urine 1.033. Weight of patient 137 lbs. The patient's person, countenance, and return of spirits, bespeak an important amendment in his disorder. He does not sleep so well since the opiate pills have been discontinued. Animal diet to be used with the same strictness as before; and a pill, containing

two grains of opium, to be taken each night at bed time. 26th. The patient is greatly improved in general health and strength. The register points out a considerable diminution in the amount of urine and drink in the twenty-four hours, during this interval; as the following extract from it will show:

15th to 26th October.

	Urine.	Drink.
October 15	9½ pints	10 pints.
17	8	9
19	9	9
21	7	7½
23	6½	7
26	5½	6

Specific gravity of urine 1.022. Weight of patient 139 lbs. His appetite is moderate, and his thirst is not great, except at meals. His skin is soft and moist. He can now sleep without being obliged to make water more than twice in the night. 14th November. The average quantity of urine does not exceed five pints and a half in the twenty-four hours. It has lost most of its sweetness, and its colour is natural. Its specific gravity is 1.021. The patient was weighed on the 10th, and he has gained nearly two pounds since last report. He now fancies himself quite cured, and is very anxious to return to his family and usual occupations. He seems fully sensible of the necessity of adhering as strictly to the animal regimen as circumstances will permit. He left the Hospital on the 16th. He attended at the Infirmary occasionally for several months after his discharge; and I was glad to find

that he continued to enjoy an improved state of health.

From the marked success attendant on the *conjoint* use of the animal regimen and opium in the preceding case, and the benefit derived from the warm bath in more than one instance of diabetes, it appeared desirable to ascertain the combined effects of these three remedies in that disease. With this view, I have on several occasions employed them *together*, and with considerable advantage, as will appear from the following examples. To avoid unnecessary detail, I shall give the reports chiefly in a tabular form, pointing out the variations in the quantity and specific gravity of the urinary secretion.

CASE I.

SARAH HILTON, aged 43, admitted an in-patient June 4th, 1825.

She had been ill for more than four months, during which time she had been under the care of several practitioners, but without benefit. She passed in the first twenty-four hours after her admission, twenty pints of pale sweet-tasted urine. Its specific gravity was 1.041. Her thirst was urgent. Mouth dry and parched. Appetite moderate and bowels costive. She complained much of pain in the loins. Weight 101lbs. The bowels having been freely moved by castor oil, she

was directed to confine herself exclusively to a diet of animal food, to take three grains of opium in the form of pill at bed-time, and to enter the warm bath every other evening. July 16th. The animal food has been relished, and the following report indicates an improvement in the diabetic symptoms*.

Date.	Urine in 24 hours.	Drink.	Spec. gra. of Urine.	Weight of Patient.	Remarks.
June 6	18 pts.	19	1040.	102	
8	14	16	1040.	103	
10	5	10	1035.	103½	
12	4½	9	1037.	105	Feels much stronger.
14	3½	8	1037.2	105	
16	4	5	1033.2	105	
18	5½	6	1034.2	105	Pain in the loins better.
20	4½	5			
22	4	6	1037.3	106	
26	5	6½	1037.5	106½	
28	6	7	1040.5	108	Gains flesh.
30	4	5			
July 2	3½	5½			
6	4	5	1031.	109	
8	5	4	1032.	108½	
12	4	4½	1031.		
14	4½	5	1029.	110	Much better.
16	3	4½	1030.	109	

* The specific gravity of the urine points out the quantity of solid matter which it contains. According to Dr. Elliotson, the specific gravity of healthy urine ranges between 1.010 and 1.018. My friend Dr. Henry has formed a Table that shews the amount of solid extract in a wine pint of urine of *different* specific gravities from 1.020 to 1.050 *. This table enables us (as Dr. Prout observes), “to ascertain with considerable precision the quantity of solid matter voided by a diabetic patient in a given time. †”

* Annals of Philosophy, vol. i, page 27.

† Opus ante cit. page 61.

Owing to the constipating effects of the opiate pill, it has been necessary to exhibit purgatives almost daily, in order to ensure a regular action of the bowels. On the 10th the dose was increased to three grains each night. The skin has become moist, and the thirst much less distressing.

Date.	Urine in 24 hours.	Drink.	Spec. gra. of Urine.	Weight of Patient.	Remarks.
July 18	4 pts.	6	1029	112	Much stronger.
24	4	$5\frac{1}{2}$	1027	113	
Aug. 4	$3\frac{1}{2}$	5	1026	112	
16	3	4	1024	114	
24	4	5			
28	3	4			
Sept. 4	$2\frac{1}{2}$	3	1021	116	Very much better. Feels so strong that she is anxious to leave the hospital.
16	2	3	1022		
18	$2\frac{1}{2}$	$3\frac{1}{2}$	1023	117	
24	2	3	1021	.....
28	2	$2\frac{1}{2}$	1021	118	
Oct. 4	2	$2\frac{1}{2}$	1021	120	
16	$2\frac{1}{2}$	3	1019	$120\frac{1}{2}$	Makes no complaint. Urine natural, in regard to smell and taste.

This patient was discharged on the 24th, and has ever since enjoyed a tolerable state of health.

CASE II.

JAMES GOULD, 29 years of age, admitted an in-patient October 4th, 1826.

This man had been afflicted with diabetes for seven months. His thirst was very distressing, and appetite impaired. He passed twenty-six pints of

sweet urine in the twenty-four hours. Its specific gravity was 1042. He weighed 128 lbs. The same treatment was adopted as in the preceding case.

Date.	Drink.	Urine.	Spec. grav. of Urine.	Weight.	Remarks.
Oct. 10	22 pts.	20	1039.	119 lbs.	Rather better.
14	23	21	1040.	117	
20	18	16	1042.	119	
28	15	13	1038.	.....
Nov. 8	13	11	1034.	120	Feels stronger. Rather sleepy in the day time.
14	13½	12	1036.	121	To take 1 grain of opium in the morning, and 3 grains at night.
18	10	8½	1031.	123	Less sleepy in the day. Much better.
26	8	7	1027.5	124	
31	7	6½	1032.5	123	
Dec. 8	5½	4	1027.5	126	
16	4½	4	1028.5	128	Much better.
25	3	2½	1026.	130	Improves weekly.
Jan. 4	4½	3	1026.	131	To be made an out-patient. Urine slightly sweet.
16	3	2			

CASE III.

PETER BAKER, 39 years of age, admitted an in-patient on the 10th of May 1826.

He had laboured under diabetes about five months. He complained of great thirst, increased appetite, dry skin, much debility, and a preternatural flow of sweet-tasted urine. The quantity passed in the twenty-four hours amounted to nineteen pints. One pint yielded on evaporation 1 oz. 5 drs. 1 scr. 4 grs. of a thick sweet syrup, and its specific gravity was 1042. He weighed 130 lbs. His mode of life had

been at times very irregular. The animal regimen, opium in the dose of two grains each morning and evening, and the warm bath every other night, were prescribed; and his bowels were directed to be kept open with the common aperient mixture of the house. The following tabular report will shew the result of this practice.

Date.	Drink.	Urine.	Spec. gra. of Urine.	Weight.	Remarks.
May 16	15 pts.	14	1041	131 lbs.	Feels better.
20	14	12	1040		
28	10	8	.....	.....	Complains of being sleepy.
June 6	8	7	1036	134	
12	7	6½	.....	
18	6	5½	1031	136	
24	5	4½			
July 6	7	6	1038		
10	8	7	1039	135	Not quite so well.
14	7	6			
18	5	4	1033	137	Better.
24	3½	2	1031		
Aug. 10	3	2	1037	136	
14	3½	2	1029	138	
18	3	2½	1029	141	
	3½	2	1023	143	Gains flesh and strength daily.
26	3	2	.....	145	
Sept. 10	3½	2	1029	149	Wishes to return home. Sweetness of urine not en- tirely gone.

CASE IV.

MARY BROWN, 43 years of age, admitted an in-patient, March 4th, 1827.

In November 1826, she first noticed that her urine was much more abundant than formerly, and

that she had a more frequent desire to pass it. She made twenty-three pints of sweet urine in the last twenty-four hours, of the specific gravity 1.049. Her skin was dry and unperspirable, tongue white, mouth parched, and gums spongy. She experienced much pain and weakness in the loins. Bowels said to be regular. Weight 101 lbs. The animal regimen, with opium and the warm baths, were immediately prescribed.

Date.	Urine in 24 hours.	Drink.	Spec. gra. of Urine.	Weight of Patient.	Remarks.
March 8	14 pts.	16	1046.	102	Rather sleepy.
10	15	17			
16	12½	14	1044.		
22	10	12	.....	103	Bowels confined. Capt. haustum olei ricini.
28	11	13	1045.	.....	Skin less dry.
April 8	9	11	1042.	102½	
14	8½	10			
18	9	11½	.....	.....	Perspired freely last night after bath.
24	7½	9	1038.	105	
28	6	8	.....	105½	
May 4	5	7	1037.¼		
8	6	8	.....	.....	Rept. haustus ape- riens.
12	5	7½	1033.¼	106	
16	14	16	1041.	104	Feels worse.
20	8	10	1038.	105	Rather better.
24	7	8	1033.	105	
26	6	8			
June 1	5	6½	.....	.....	Improves weekly.
4	4½	6	1037.	106	Skin moist.
8	3	4	.....	.....	Tongue clean.
12	3	4½	1036.	107	
14	2½	4			
16	2	3	1033.	.....	Health much im- proved.
19	3	4½			
24	3	4	1030.		
28	2	3½			
July 4	2	3	1030.	109	Discharged relieved. Urine nearly na- tural.

CASE V.

THOMAS SMITH, aged 51, admitted an in-patient September 16, 1827.

He has suffered from a distressing thirst and frequent desire to make water, during the last four months. About six weeks ago, he chanced to taste his urine and found it as sweet as syrup. His skin is dry, tongue foul, gums sore, bowels costive, appetite very keen, pulse 104 and feeble. His habits have been very irregular. He has passed thirty-six pints of urine within the last twenty-four hours. A rigid adherence to animal diet was strictly enforced, and opium and the warm bath were also prescribed, as in the preceding cases.

Date.	Urine in 24 hours.	Drink.	Spec. gra. of Urine.	Weight of Patient.	Remarks.
Sept. 21	33 pts.	35	1044	126 lbs.	
26	28	30			
Oct. 6	15	17	1037.6	130	Feels better. Very sleepy.
12	18	21	1040	129	Not quite so well.
20	13	15	1035	130	Much better.
26	11	12	.....	.....	Bowels confined. Capt. haust. Olei Ricin.
30	9	9	1031	131	Draught oper. freely.
Nov. 10	7	8½	1028	133	Much stronger.
16	6½	7	.....	.....	Very cheerful, and sleeps well during the night.
22	5	6½			
26	3½	5	1029	135	Skin moist. Baln. tepid. bis in hebdomadâ.
30	3	4			
Dec. 10	2	3	1028	136	Wishes to leave the house.
17	2½	3			
24	2	2½	1028	137	Bowels regular.
28	2½	3			
31	2	2½	1027	138	Discharged at his own request. Urine slightly sweet.

CASE VI.

JANE JOHNSON, came under my care on February 24th, 1828.

She had been diabetic for two years and a half, and was so far reduced in strength as to preclude almost the hope of affording her even relief. She discharged thirty-two pints of uncommonly sweet urine, in the twenty-four hours, of the specific gravity 1.044. Her appetite was moderately good, pulse extremely feeble, and bowels rather loose.

She had a slight cough with laborious respiration. A blister was applied to the chest; and a mucilaginous mixture prescribed for the cough. She was directed to use animal food *only*, with an allowance of tea in the afternoon; and to take three grains of opium in the form of pill, each night, at bed time. Owing to her great debility, it was not thought advisable to employ the warm bath. In the course of three weeks the cough had completely disappeared; the quantity of urine had decreased to twenty-one pints in the twenty-four hours, and the diarrhœa had yielded to the opiate pill. This improvement, however, was but of short continuance, for the difficulty of breathing suddenly became more distressing, considerable effusion occurred in the legs and thighs; and death terminated her sufferings on the 2d of April. On a post-mortem examination of the body the following appearances were noticed. *The brain and its membranes* were in a healthy condition. On raising the sternum, a dense layer of coagulable lymph was detected upon the pleura pulmonalis in both cavities; and a firm adhesion existed between the costal and pulmonary pleura at the upper part of the right side of the chest. The lungs themselves were quite sound. Nine ounces of fluid were found in the left cavity of the thorax, and four in the right. The quantity of liquor pericardii was about an ounce. *Gall bladder*, distended with bile. *Liver* somewhat larger, and of a firmer consistence than natural. *Spleen and uri-*

nary bladder free from disease. The *left kidney* had undergone a remarkable diminution in bulk, being not more than one-third of its usual size. After the removal of fat, &c. it weighed only nine drams (troy weight). Several small hydatids were attached to its surface. The right kidney weighed five ounces nine drams (troy weight). The stomach contained six ounces of half-digested cream-like fluid. In this case no permanent good could be expected from any plan of treatment.

Since the foregoing cases were prepared for the press, I have made trial of the animal regimen, opium, and the warm bath, in four other instances of diabetes, with striking advantage.

REMARKS.

I conceive the above to have been well-marked examples of diabetes mellitus. The reports seem fully to establish the efficacy of the conjoint employment of *animal diet, opium, and the warm bath*. The rapid diminution in the quantity of the urinary discharge, and decrease in the specific gravity (which may be regarded as one of the surest signs of an important amendment in the disorder having occurred) under this plan of treatment, are strikingly illustrated. In the case of Hilton, the secretion of urine was lessened in four days from eighteen pints to five in the twenty-four hours, and the specific gravity from 1040 to 1035. It cannot, I think, correctly be said, that the saccharine impregnation of

the urine was completely subdued, in any of the preceding instances, excepting that of Hilton, who was restored to her wonted health and vigour. When the *specific gravity* of the urine remains beyond the natural standard, the cure cannot be considered perfect, although the patient may be capable of resuming the ordinary duties of life. With regard to the use of opium in this disease, it may be remarked, that it proves most beneficial in moderate doses; for when exhibited during any length of time, in large quantities, it produces alarming and pernicious effects. Dr. Prout's testimony is in favour of this statement. I have rarely found it necessary to administer more than four grains in the day. Dr. Elliotson has given as much as forty-five grains three times in the day. The warm bath, aided by flannel clothing, is calculated to prove highly serviceable, by removing the harsh, dry, and shrivelled state of skin, which mostly accompanies every genuine instance of diabetes. "It is in this quarter," says Dr. Watt, "that the first impression of disease is generally made, and we have no security of the system being fully restored till the skin become natural in its appearance, and resume its functions*." It must be allowed that instances of this disease occasionally occur, which yield to no remedies; but still it appears to me, that more benefit is to be expected from the conjoint use of animal diet, opium,

* Oper. ante cit. p. 222.

and the warm bath, than from any other plan of treatment. This opinion remains to be confirmed by the experience of other practitioners. I have also made trial of bleeding, animal diet, and opium in conjunction (as suggested by Dr. Elliotson), but with such results as have led me to prefer the warm bath to venesection in this affection. In short, in obscure diseases, of the known varieties of treatment, that is to be held the best from which most benefit has been obtained; a principle which by no means precludes the trial of new remedies.

As to the *perfect* cure of diabetes, it is necessary to speak with much caution, for, like some other formidable diseases, it is mostly capable of being relieved *only*, and not effectually removed. "Within these last six or seven years," says Dr. Prout, "nearly twenty cases of diabetes have fallen, more or less, under my observation; and among these I have never but in *one* instance, and in that for a *very short time only*, seen the urine of a diabetic patient rendered quite natural*."

* Oper. ante cit. p. 81.

R E P O R T

ON THE REMEDIAL

EFFICACY OF SULPHUREOUS FUMIGATIONS

IN SOME

DISEASES OF THE SKIN, AND IN CHRONIC RHEUMATISM,
DIABETES, &c.; WITH SOME GENERAL OBSERVATIONS ON
THE TREATMENT OF CERTAIN CUTANEOUS AFFECTIONS.

OWING to the distinguished liberality of the trustees of the Manchester Infirmary, and the laudable exertions of our eminent senior surgeon, Mr. Simmons, several convenient and well-arranged sulphureous vapour and medicated baths have been attached to our institution. When it is considered that the nature of cutaneous diseases is still but imperfectly understood, and that they are mostly prevalent among the lower orders of society, it cannot be matter of surprise, that the want of an establishment for the treatment of diseases of the skin should have been long felt in so large and populous a town as Manchester. Some of these maladies obstinately resist the whole of the remedies supplied by our art; but others of a very obstinate character happily yield to the use of the sulphureous fumigation. The baths were opened on the 10th of January,

1825, and since that period not less than 3046 patients have been admitted into them. Sufficient time has now elapsed to warrant a statement of the advantages experienced by the poor from this institution*. No doubt can I think remain in the mind of any one, who has perused the writings of Assalini, Rapou, Lalouette, Galès, Alibert, Decarro, Clarke, Wallace, and Duffin, respecting the value of sulphureous fumigations as a remedy for diseases of the skin; and I feel satisfied, that a very limited observation of the patients submitted to sulphureous fumigations will shew the *happy results* attending the practice. Mr. Wallace of Dublin, to whom the profession is under many obligations, for having confirmed and extended the advantages of the treatment proposed by Galès, has the merit of having first constructed an apparatus on the principle of the one invented by that physician, which enables us to apply the sulphur vapour with considerable facility, and but little inconvenience to the feelings of the patient†. It must be recollected, that this

* It is much to be regretted, that owing to the multifarious engagements of the late superintendent of the baths, no regular account has been kept of the particular kinds of cutaneous disease under which the patients of my colleagues have laboured; so that I can merely give the results of my own experience of the value of the sulphureous fumigations in skin affections. I am, however, enabled to state, that their trials of the sulphur baths have proved favourable to the efficacy of the practice in certain cutaneous diseases.

† It is proper to observe, in justice to Mr. Gaylor, our present

method of cure requires both caution and discrimination. Owing to inattention in the selection of suitable cases, I have more than once witnessed very unfavourable results from its employment. When a patient presents himself with a cutaneous disease (say lepra or psoriasis), it is highly improper to order him at once to the sulphur bath, without first making minute inquiries respecting his ordinary habits, and the general state of his health. It has always been my custom to ascertain whether any internal disorder has been connected with the affection of the skin, and to consider how far the former might be aggravated by the use of the sulphur vapour. I have on many occasions been compelled to defer the employment of fumigation, in consequence of the co-existence of pulmonary and cutaneous disease. Nothing can justify the exposure of the body to a heat of 100°, or 120°, Fahrenheit, whilst considerable pulmonary irritation (particularly in a scrofulous habit) may be present; for such imprudence might lead to tubercular development, or other organic disease of the pulmonary substance. Sometimes it has been found absolutely necessary to suspend the use of the baths, when cough and other pectoral symptoms have occurred during the patient's trial of them. Before prescribing the fumisuperintendent of the baths, and for the information of other charities, that he has introduced several important improvements in the fumigating apparatus, so as to render the application of the vapour more convenient and salutary to the patient, and considerably to reduce the expense in constructing sulphur baths.

gations, it is well to ensure a healthy condition of the digestive organs by the occasional exhibition of the blue pill and saline aperients; and it may be stated, that the amendment has invariably been found most rapid in the cases in which this precursory treatment has been adopted. With females, *certain points* require particular attention in the employment of sulphureous fumigations, such as *pregnancy* and *the menstrual discharge*. Mr. Wallace has very properly alluded to these circumstances: "It may be necessary to mention," he observes, "that I have never ventured on their employment with females during their menstrual period, when advanced in pregnancy, or shortly after parturition; and this I have avoided in consequence of observing the inconvenience which arose, in the practice of some physicians, from inattention to these circumstances*." I may here remark, that my experience is decidedly opposed to the practice of fumigation in severe cases of leucorrhœa. In several instances that are fresh in my recollection, I was under the necessity of ordering the patients to discontinue the baths, owing to the greatly increased mucous discharge, and the extreme debility and harassing lumbar pains consequent upon their use.

In some obstinate cases of amenorrhœa, the return of the menstrual evacuation has been induced by the aid of this remedy. We may, I think, attri-

* See page 71 of his "Observations on Sulphureous Fumigations."

bute the return of uterine action with more correctness to the frequent exposure of the body to heat, than to the stimulating properties of the sulphur. Sulphureous fumigations are improper *in all kinds of acute inflammation of the skin and of the articulations; they are only adapted to affections of a chronic nature.*

It has been satisfactorily proved by the reports of several authors, that the benefit of sulphureous fumigations is not confined merely to diseases of the skin, but may be extended to other affections, as *sciatica, chronic rheumatism, local palsy, &c.* My friend Mr. Simmons has employed them very extensively and usefully in *scrofulous affections of the joints, in obstinate ulcers of the lower extremities, and in indolent tumours.*

That gentleman adds his experience to mine in testimony of the accuracy of the following statement of Mr. Wallace. "I can also say, that in innumerable cases of chronic diseases of the articulations, the consequence of gout and rheumatism; in such chronic diseases of the osseous, fibrous, and synovial systems as are the sequelæ of syphilis and the indiscreet use of mercury; in almost all chronic diseases of the joints, from whatever cause arising; in some cases of local palsy; and in some very chronic tumours and glandular diseases;—sulphureous fumigations, either partial or general, will be found a most valuable remedy. In a large majority of these cases, alone or combined with proper medical treatment,

and with proper attention to circumstances on the part of the patient, they will accomplish a cure, or afford much relief; and frequently in those very cases in which other means have been tried in vain*.”

In a paper on *Paruria Melita*, published in the third number of the Edinburgh Journal of Medical Science, I ventured to suggest the use of the sulphur bath in that affection. I have since made trial of it with two diabetic patients, and with the most marked benefit. This will be shewn in the report of one of the cases. I do not attach any specific virtue to the fumes of sulphur in this disease, but as they possess the power of stimulating the cutaneous vessels more forcibly than the mere vapour of water, I consider them best adapted to fulfil the intention with which the latter remedy is mostly employed; *viz. to remove the morbidly arid condition of the skin, and restore natural perspiration.* We know that in diabetes the skin is generally dry and shrivelled, hence it becomes a leading point, in practice, to induce a healthy cutaneous discharge. I have invariably found an amelioration of the other symptoms to accompany an improved condition of the skin.

Before I proceed to relate a few cases illustrative of the benefit of the sulphureous fumigations in several affections, I may briefly notice the particular kinds of cutaneous disease in which I have

* See page 69 of work before quoted.

chiefly employed them, and with highly favourable results; these are *scabies*, *impetigo*, *porrigo*, *prurigo*, *lepra*, *psoriasis*, *pityriasis*, *ichthyosis*, and *pompholyx*.

In *Scabies*, the value of the sulphur bath is universally acknowledged. I have always seen the most obstinate and neglected cases of it yield very speedily to a few fumigations.

In *Impetigo* I have found the sulphur bath a remedy of very great efficacy, particularly in that form of it named *impetigo scabida*. It clears the surface of the limb of its incrustation more rapidly than any other mode of cure, and corrects the morbid action of the superficial vessels, in which (as Dr. Bateman has correctly observed) “the chief peculiarity of its treatment consists.” I almost daily witness cases of impetiginous disease, and I am in the habit of adopting the following mode of treatment. I order the affected parts to be washed several times daily with a decoction of poppy heads and chamomile flowers; and when the inflammation is very severe, I always resort to the aid of leeches, whose application is repeated according to the particular circumstances of the case in which they are used. I confess that I have rarely found it necessary to employ general bleeding, notwithstanding the advice of Rayer upon this head. “Au début,” he observes, “de l’impétigo et toutes les fois qu’il est accompagné de rougeur à la peau, ou caractérisé par une éruption considérable de pustules, il convient de pratiquer

une saignée générale*.” In this injunction, Rayer never alludes to the state of the pulse, or to the particular condition of the constitution, but seems to take it for granted, that if the skin be red, or covered with pustules, general bleeding is indicated. Such a view of the nature of this disease (according to my experience) is incorrect; for I have witnessed several cases of impetigo, in persons of advanced life, attended with considerable redness of the skin, in which it would have been highly improper to have adopted a general bleeding; for the circulation instead of being vigorous was feeble and languid, rather indicating debility of the system. After the skin has been well softened by the persevering use of emollient fomentations, the *sulphureous fumigations* may be *advantageously* employed. The benefit attending them has often afforded me both pleasure and surprise. It has never been omitted in my practice to pay particular attention to the state of the bowels in this affection. I am inclined to place very little confidence in the decoctions of *sarsaparilla*, *dulcamara*, or *cinchona*, as I have never derived any marked benefit from their exhibition. The external use of the hydrocyanic acid (as recommended by Dr. Todd Thompson and Mr. Plumbe) is, in my opinion, deserving of more attention than it has hitherto received. Dr. Elliotson also states, that he has derived benefit from the hydrocyanic acid employed as

* *Traité Theorique et Pratique des Maladies de la Peau*, tom. i, p. 480.

a wash in sores behind the ears, and in scabs of the face. "It has often," he adds, "relieved prurigo of the pudenda and podex*."

In *Porrigo*, the *sulphureous fumigations* are also very serviceable, but when the face is the seat of this affection, it is difficult if not impossible to ensure such a regular exposure of it as is likely to be attended with any curative efficacy. In the *Porrigo larvalis* (of which I almost weekly see some examples) my chief attention is directed to the state of the alimentary canal, by administering small doses of calomel each night and morning, and clearing the bowels by the aid of occasional doses of castor oil. I enjoin ablution of the affected parts with tepid milk and water, or decoction of poppies, five or six times daily, and in the evening I order the porriginous patches to be besmeared with an ointment composed of equal parts of the unguentum nitratis hydrargyri mitius of the Edinburgh Pharmacopæia and hog's lard. I have also found a combination of the unguentum zinci with saturnine cerate, as recommended by Bateman, very useful in obviating excoriation, while the surface (as the author just named observes) "remains red and tender, after the discharge has ceased." I have now had more than thirty cases of *porrigo larvalis* under my care, and I may state, that I have not met with a single instance that resisted a persevering

* See his work on the Prussic Acid, p. 53.

trial of the above simple method of treatment. In the *Porrigo furfurans*, little is required except keeping the scalp closely shaven, washing it several times daily with soft soap and water, and exhibiting occasional doses of calomel with sugar. The *Porrigo lupinosa* (Teigne granulée of Alibert) may be treated in a similar manner. I have employed with advantage in the *scalled* head Mr. Plumbe's plan of removing the scabs and hairs by the application of the concentrated sulphuric acid to the scalp by means of a feather.

In the *Porrigo scutulata*, or *ringworm of the scalp*, I know of nothing so useful as frequent shaving and ablution of the scalp with mild soap and water. I have cured many severe cases of this disease by these means only. If the hair be allowed to grow again after the first or second time of shaving, it is in vain that we attempt to remove the disease, either *by ablution* or *the application of stimulating ointments*. Dr. Bateman seems to think, that when the patches are inflamed, "even the operation of shaving produces a temporary increase of irritation;" but I have always found this "temporary increase of irritation" much less injurious than that occasioned by the hair itself. I direct shaving of the scalp twice or thrice weekly, until the disease be completely removed. Many cases on my books confirm the efficacy of this simple mode of treatment. In this, as in the other forms of porrigo, the bowels demand particular care. Alterative doses of mercury and mild aperients are useful, not merely

in removing the constitutional irritation attending the local disorder, but in improving the morbid condition of the dermoid texture. Of the several kinds of lotion ordinarily employed in ringworm of the scalp, I give a decided preference to a solution of nitrate of silver, in the proportion of a drachm of the salt to 12 ounces of distilled water. Mercurial and sulphur ointments may also be considered important remedies. In *Porrigo decalvans*, I have never derived benefit from any mode of treatment (and I have given a fair trial to most of the means which have at different times been proposed for the removal of this obstinate affection), except constant shaving and washing of the scalp in sea water. The same treatment must be adopted in the *Porrigo favosa* as in the other species of this affection. When the scalp is the seat of the disease, it is absolutely necessary to remove the hair with finely pointed scissors, and to wash the pustules with warm water several times daily. I have frequently seen cases of some months' standing removed in as many weeks by simple ablution and the use of the alteratives, as recommended in the other varieties of porrigo. If the patient be young, the hands should be secured to prevent picking and scratching about the edges of the scabs.

In the several forms of *Prurigo*, the *sulphur bath* will also be found very serviceable, when it is deemed necessary to have recourse to it; but *mild aperients*, *cooling diet*, and the *warm bath*, mostly succeed in removing the disease. The

Prurigo podicis, and *Prurigo pudendi muliebris*, sometimes prove very distressing affections. In the latter variety I have made trial of many different lotions, but from repeated experience of its superior efficacy, I am led to give a decided preference to a weak solution of the oxymuriate of mercury. When the external parts have been red and much inflamed, inducing a degree of nymphomania, I have successfully directed the application of a few leeches, followed by saturnine lotions and gentle aperients.

The *benefits* of *sulphureous fumigations* are not confined merely to *Pustular* and *Papular* diseases unattended with inflammation, but extend in an *especial* manner to squamous affections; and indeed I consider the sulphur bath more serviceable in *Lepra*, *Psoriasis*, and *Ichthyosis*, than in any other diseases of the skin. *Lepra*, it must be admitted, is an affection difficult of removal, for it not unfrequently resists with obstinacy the various remedial means employed for its cure*. It is unnecessary for

* I am particularly desirous of exciting *more* attention in the profession to the use of the sulphur bath in *scaly* diseases; for my experience of its high value, leads me to recommend it as a remedy infinitely superior to every other in those obstinate affections. This will, I conceive, appear from the annexed tables. During the last six months, I have met with four confirmed cases of *lepra* in private practice, and in each of them a cure was effected by the sulphureous fumigations *alone*. I have also the authority of an eminent member of the bar for stating, that after an *ineffectual* trial of various remedies, both in London and the country, for the removal of an obstinate psoriatic disease, he obtained a cure by a persevering employment of the sulphur bath.

me to enumerate the different external and internal remedies which have at various times been adopted in this affection, as they have been already fully mentioned by Dr. Duffin in his valuable paper on *Squamous disorders*, published in the January number of the Edinburgh Medical and Surgical Journal for 1826. I agree with that gentleman in considering arsenic the best internal remedy in leprous affections ; and I can bear my testimony to the value of the pitch and weak nitrate of mercury ointments as a local remedy. I have frequently employed with advantage, as a topical application, a mixture of equal parts of the pitch and sulphur ointments, directing a certain portion of it to be rubbed upon the affected parts each night, and washed off with the *Lotio potassæ sulphureti* of the Pharmacopœia of our hospital the following morning*.

The patient has also been directed to immerse the squamous patches in warm water for twenty minutes or half an hour, twice or thrice daily, and I invariably find that this mode of softening and cleansing the skin materially accelerates the cure of the disease. Dr. Bateman strongly recommends (on

* FORMULA LOTIO SULPHURETI POTASSÆ.

℞ Potassæ Sulphureti ℥ss.

Saponis albi ℥i.

Liquoris calcis oʒ.

Spiritus rectificati f. ℥iv ;

Saponem et Sulphuretum simul tere ; dein Liquorem calcis affunde, et adde Spiritum.

the authority of Dr. Crichton) the decoction of the leaves and twigs of the *solanum dulcamara*, as one of the most effectual remedies for *Lepra*, in doses of two or three ounces thrice in the day, gradually augmented, until the daily consumption amounts to a pint: but I may confidently state, without any wish to impeach the accuracy of Dr. Bateman's individual experience, that I have given this medicine a very fair trial on his recommendation, in several instances of this disease, but without perceiving that its use was attended with *any benefit*. I have always found *the regular exhibition of purgatives*, on the Hamiltonian plan, very serviceable in *lepra*. I am not aware that the purgative mode of treatment is generally adopted in affections of the skin, but I may venture to assert, that purgatives are entitled to much greater attention than they seem at present to receive in the cure of this class of diseases. I have succeeded in removing some obstinate cases of *lepra* and *psoriasis* by *their aid alone**. I do not mean to say that purgatives will cure every case of *lepra*, but I contend that they will effect the removal of the disease in many instances, without the use of baths or any other remedies. "Les purgatives (says Rayer) ont été autrefois beaucoup employés, et le sont rarement aujourd'hui. A l'aide de ces remèdes combinés avec

* *Purging and the warm bath* (*alternis diebus*) was, I believe, a common and favourite practice of the late Dr. Duncan in *Psoriasis*.

les bains tièdes ou les bains de vapeurs, ou a reüssi à guerir en un mois ou six semaines des lepres qui avaient rèsisté a tout autre moyen*. He considers the tincture of cantharides in the dose of 5, 10, 15, 20, or 30 drops, a most energetic remedy in lepra, and the other scaly diseases.

In *Psoriasis*, which is perhaps the most common cutaneous disease met with in this country, the same plan of treatment may be usefully employed. Of its *causes*, we are as ignorant as of those of lepra. I have always made a point of asking my patients if they could assign any reason for the occurrence of this state of the skin, but I have generally received an answer in the negative. *The imprudent use of acid fruits, irregularities in diet, and exposure of the body to cold, or drinking cold water whilst it has been much heated with exercise*, are enumerated by authors as the ordinary exciting causes of psoriasis, but in very many cases we cannot refer the disease to any of these causes. Amongst the lower classes of society it is I think partly owing to filth. Plumbe and Duffin correctly consider Lepra and Psoriasis as mere varieties of the same affection. The analogy between the two diseases is very striking in Willan's variety *guttata*. I have frequently observed the psoriasis guttata on the trunk, and leprous patches upon the elbows and knees. There is a variety of psoriasis (though not dwelt upon by authors), which I frequently notice among the lower and aged classes

* "Traite des Maladies de la Peau," tom. ii, p. 20.

of female patients at our Infirmary. It is confined to the front and inner part of the fore-arm. The psoriatic patches mostly extend from about four inches below the elbow to the wrist. This form of the disease seems to me to be equally deserving of a distinct appellation with the local varieties *labialis*, *ophthalmica*, *scrotalis*, *præputialis*, and *palmaria*. I should therefore suggest that it may be named *Psoriasis cubiti*. It is *extremely* difficult of removal, and particularly with patients who are compelled to wash and bake rather frequently. In some instances of the *Psoriasis diffusa*, where the skin has been very irritable, and the vascular excitement somewhat considerable, I have derived advantage from venesection, as recommended by Wallace, Duffin, Graves, and Rayer.

It is unnecessary to dwell upon the third genus in the order squamæ, *viz.* Pityria is, as it is a disease of little consequence, being readily removed by very simple means, such as warm sea bathing, gentle purging, mild antimonials, and occasional ablution of the skin with soft soap and water. Rayer objects to Willan's classification of ichthyosis with lepra, psoriasis, and pityriasis; and places it under the head of "*vices de conformation et de texture*." "Ichthyosis (he observes) bears a very feeble analogy to the squamous inflammations. Willan and Bateman have erred in arranging these affections in the same class. In fact, ichthyosis is almost always congenital, or develops itself in the first months of in-

fancy, continuing through the whole of life, and is unaccompanied either by sanguineous injection into the cutaneous tissue, morbid heat, itching, or indeed any of the phenomena proper to inflammation.” “In lepra, psoriasis, and pityriasis, the formation of scales is always preceded by a redness of the skin, which becomes evident upon removing the covering of the scales or the scurf on their surface.” From arguments like these, I see no reason to disapprove of Willan’s arrangement. Ichthyosis is unquestionably a scaly disease, and is accordingly classed with propriety amongst affections of a like nature. In ichthyosis, I can safely recommend the use of the *sulphur bath*, since I have no hesitation in saying, that it possesses more curative efficacy in this affection than *any other external application hitherto employed*. It is satisfactory to be able to state, that a disease pronounced by Rayer to be incurable, will be found occasionally to yield to a persevering use of the sulphureous fumigations, and to the internal exhibition of the liquor arsenicalis*. In two cases lately under my care, of ten years standing, a perfect cure was effected by the sulphur bath, after almost every other remedy both internal and external had been employed in vain. The patients attended the sulphur baths three times weekly for *more than a year and a half*. Ichthyosis is *fortunately not of very frequent occurrence*. The variety named *ich-*

* On ne guérit jamais (he affirms) l’ichthyose a moins qu’elle ne soit tres légère et accidentelle.

thyosis faciei is a very troublesome affection; and when a beautiful face chances to be disfigured with it, no reward would be considered too great for its successful removal. Dr. Bateman speaks in high terms of the value of pitch as an internal medicine in ichthyosis. "The only good effect (he observes) that I have witnessed from internal medicine, has been from the use of pitch, which has occasioned the rough cuticle to crack and fall off, without the aid of external means, and left a sound skin underneath". One lady, a patient of Dr. Bateman's, took for a length of time, from three drams to half an ounce of pitch daily with much benefit. She commenced with four pills of five grains each three times daily, and gradually augmented the dose. I have made a very fair trial of pitch in ichthyosis, and the other scaly affections, but I must confess that I have never derived the least advantage from its use. In this assertion I do not depend upon a *limited* experience of its remedial value, since I have prescribed the pitch pills in not less than a hundred cases of squamous disease.

In two cases of *pompholyx*, one of which I consider worthy of brief detail, I found the sulphur bath a remedy of great value. Various other remedial means had been previously adopted, but with only partial advantage to the patients.

Such are the cutaneous affections in which I have chiefly made trial of sulphureous fumigations; but I think it proper to notice their utility in some other

diseases. I am not acquainted with any remedy of *equal importance* in chronic rheumatism and nodosity of the joints, diseases which are of very frequent occurrence at the Manchester Infirmary. It would be useless to dwell upon the whole of the cases of chronic rheumatism which have fallen under my care; but I shall give a table, showing the result of the sulphur bath in forty instances of this disease. I shall, however, relate two cases in detail, as they seem to me to afford very decisive evidence of the great utility of the sulphur bath in this troublesome affection. My friend Mr. Simmons has witnessed considerable benefit from the sulphur vapour in old ulcers of the inferior extremities; and in looking over the register of the baths, I perceive that several of his patients, whose ulcers had obstinately resisted the usual remedies, were strikingly ameliorated by the sulphureous fumigations; and some of them were completely cured by them. In *scrofulous affections* of the joints, the sulphur bath is also sometimes very serviceable, if applied before suppuration has commenced, for when the ligaments, cartilages, or heads of the bones are once diseased, we cannot reasonably expect much benefit from its use, or indeed from any other remedy. Ample opportunities are afforded at our Infirmary for ascertaining the real properties of the several remedies which have been recommended for their efficacy in scrofula, since at almost every weekly consultation, some miserable patients are presented with scrofulous elbow, knee, or ankle joints*. I

* In the numerous amputations, unconnected with accident, which occur at our hospital, the majority are required for the re-

have selected the following cases from many others, which are equally confirmatory of the value of the sulphureous fumigations.

CASE OF DIABETES, IN WHICH THE SULPHUR BATH
WAS EMPLOYED WITH SUCCESS.

JOSEPH GOSLING, aged 26, a spinner, was admitted into the Infirmary as an in-patient of mine, on December 1st, 1826. He had laboured under diabetic symptoms for more than sixteen months, the last nine of which he had passed under the care of M. Lerminier at the hospital La Charite in Paris. On inquiring of my patient what medicines he had

removal of scrofulous limbs. On careful inquiry as to the *original cause* of the disease, I have usually received in answer, that it was produced by an accidental sprain. It is rather a singular fact, that most of the scrofulous patients met with in this part of the country, have some time or other followed the occupation of weaving. The cellars in which the weavers work are mostly damp, and (generally speaking) these men labour hard and live but very poorly. The propriety of amputation in most of these cases of scrofulous disease is confirmed by an examination of the limbs after their removal. The ligaments, cartilages, articulating surfaces and heads of the bones connected with the unsound joint, are mostly involved in one common mass of disease, and collections of purulent matter are detected in the neighbourhood of the joint. After the operation, the health of the patient mostly improves, his sleep and appetite gradually return, and the profuse perspirations, diarrhœa, and tickling cough, quickly disappear.

been using during that time, he replied, " Nothing but sugared water and ptisans." At each visit, he heard the order " tisane, encore tisane." On his admission, he made 26 pints of sweet-tasted urine in 24 hours. Its specific gravity was 1038. He weighed 118 lbs. His appetite was irregular, and his thirst so urgent that he consumed nearly 28 pints of fluid in the twenty-four hours. He complained much of pain in the loins. His skin was dry and rough, mouth clammy, pulse feeble, bowels alternately loose and costive. He was subject to sexual excitement, followed by debilitating effects. He could assign no cause for his complaint. I had in the same ward Watson Barker, another diabetic patient, who had derived very great benefit from a strict adherence to animal diet. I resolved, however, in this case to give the sulphur bath a fair trial. Previously to its employment, I adopted a mild but regular course of aperients, and thus obtained a healthy action of the intestinal canal. I now directed him to enter the sulphur bath every other day, and the progressive change in the symptoms under its use will be best shewn by the following table, which was kept, at my request, by our late intelligent house apothecary Mr. Worthington*.

* Gosling had a mixed diet, the ordinary fare of the house.

Date.	Drink.	Urine.	Specific Gra. of Urine.	Weight of Body.
	Pints.	Pints.		lbs.
December 2	28	26	1038	118
3	28	26		
4	15	14	1010	120
5	21	21	1005	119
6	20	21	1004.5	119
7	20	19	1008	121
8	25	25	1005	124
9	20	23	1006	125
10	20	21	1006	125
11	18	20	1007	124
12	13	11	1006	123
13	12	9	1008	121
14	12	14	1007	120
15	13	14	1006	119
16	10	12	1007	118
17	13	14	1006	118
18	12	14	1008	119
19	13	15	1007	118
20	8	7	1009	118
21	10	8	1007	119
22	9	10	1006	118
23	9	9	1008	118
24	10	10	1006	119
25	11	11	1006	119
26	10	12	1005	119
27	9	10	1006	120
28	12	14	1007	122
29	10	12	1007	120
30	8	10	1008	120
31	8	9	1009	120
January 1	9	10	1007	120
7	8	9	1009	120
10	8	9	1008.5	122
13	8	9	1007	124
18	9	8½	1007	125
20	8	9	1008	125
24	8	8½	1007	126
30	7	8	1007.5	126
February 2	8	8	1007	127
3	8	8	1007	128
4	8	8½	1007.6	126
5	8	7	1008	127
7	6	8	1008	128
10	7	6	1008	129
15	8	5	1006	128
17	6	5	1010	128
19	5	4	1010	129
20	5	4	1011	131
21	3	6	1010	132
23	3	2	1011	133
25	2	2	1010	134
March 16	2	2	1010	138

Gosling was discharged on the 17th of March, and he remained in the enjoyment of good health for more than six months, when he left Manchester and returned to France, to assist his brother in the superintendence of a cotton mill in that country; and I have not since heard any thing respecting him. I admit, that in this case it is highly probable the warm bath would have been attended with an equally favourable result; but the preparation of the sulphur bath is much less troublesome and its application easier. Patients seem to prefer it to the warm bath.

CASE OF POMPHOLYX DIUTINUS REMOVED BY THE
USE OF THE SULPHUR BATH.

JOHN SMETHURST, 15 years of age, was admitted as an out-patient of mine on the 13th of June, 1826. His mother stated, that the vesications made their appearance shortly after bathing whilst the body was much heated from violent exercise. He was first seized with rather severe febrile symptoms, which were removed by the aid of venesection, purgatives, and diaphoretics. The vesications were chiefly confined to the inferior extremities, though many were present on the face and trunk. With a view to their removal, I directed my chief attention to the state of the boy's bowels, prescribing Plummer's pill at bed time and a gentle aperient in the morning. During the day, he used the decoctum sarsaparillæ compositum, and entered the warm bath every other night. This plan was steadily pursued for more

than five weeks, but with very little benefit; for no sooner had some of the bullæ discharged their lymph and healed, than others either re-appeared in their place or arose in fresh parts of the body. I now directed him to enter the sulphur bath every morning, and to discontinue his former remedies. Sme-thurst received fifty-four baths, when he was discharged perfectly well.

In the 17th volume of the Edinburgh Medical and Surgical Journal, a case of pompholyx is related in the report of the Royal London and Westminster Infirmary for Diseases of the Skin, which was cured by the use of the sulphureous vapour bath. "One among many remarkable and instructive cases (says Dr. Emerson), the medical officers wish to bring under your notice. It was an inveterate instance of the pompholyx, which had resisted the various treatments of several hospitals. It occurred in a young girl. Her sufferings were not to be described, but by the use of the bath and some internal medicines she now enjoys a comparative degree of health and comfort; and her tender age renders it extremely probable, that the cure may be as permanent as it has been satisfactory."

CHRONIC RHEUMATISM CURED BY THE SULPHUR
BATH.

CASE I.

JOHN KAY, 49 years of age, was admitted as an out-patient of mine at the Infirmary on the 10th of

March 1826. He had been incapable of locomotion for more than two years and a half, and his friends brought him up to the hospital in a chair on the days of my attendance. The whole of the large joints of the body were stiff, enlarged, and painful. He was much emaciated from constant pain and anxiety; his sleep was disturbed, and his appetite much impaired. His spirits were greatly depressed in consequence of his long indisposition. I made trial for some time of the warm bath each night, and of diaphoretic medicines (including the pulvis ipecacuanhæ compositus), but without producing any favourable change in the disease. I had recourse to the oleum jecoris aselli, which had been recommended by my uncle, in his Medical Reports, and by other writers, for its efficacy in chronic rheumatism, but with a similar result. I now resolved upon making trial of the sulphureous fumigations. After fourteen baths, the pains became less frequent and severe. He persevered in the use of them for more than seven months, and received 164 baths. He was able at the time of his discharge to walk from his own house to the Infirmary and back again, and the pain and stiffness of the joints had entirely disappeared. He continues in good health, and is now able to provide for the support of a young family.

CASE II.

JOSEPH LANGSHAW, a spinner, aged 39, was admitted as an in-patient, June 6th, 1826.

He had laboured under chronic rheumatism for a year and a half, and had been incapable of following his usual employment during the whole of that time. His knee and ankle joints were considerably enlarged, and acutely painful on motion. From close confinement to the house and constant pain, his general health had become much impaired, and his strength and flesh were greatly reduced. The bowels were first freely opened, and he was directed to use the sulphur bath daily. June 18th. Feels much easier, and is very desirous to continue the bath. July 5th. His pains are less severe, and his strength is improved. 12th. Owing to the occurrence of slight pulmonary irritation, he has been under the necessity of discontinuing the bath during the last five days. 20th. The cough is gone. Ordered to resume the use of the sulphur bath every other day. 29th. Continues to improve. Aug. 7th. He is now able to walk to the bath house without the aid of crutches. 14th. He acquires strength daily, and is capable of moving both the ankle and knee joints without experiencing pain; they are however somewhat stiff and feeble. September 4th. Langshaw is now entirely free from rheumatic pains. He can walk to a considerable distance without any inconvenience. His appetite is good, and his ge-

neral health excellent. As he is anxious to return to his employment and strive to relieve his family from the misery and distress into which they have been plunged in consequence of his long indisposition, I have ordered him to be discharged *cured* on the 6th. I had the satisfaction to receive from this patient a short time after he left the house a letter expressive of his deep gratitude for my attentions, and of his thanks to the Board of Trustees for allowing him to remain so long in the Hospital.

CASE OF ICHTHYOSIS TREATED WITH THE SULPHUR BATH.

ANN BARNES, aged 42 years, was admitted as an out-patient of the Infirmary on the 24th of November, 1826.

She first noticed a thickened and rough state of the integuments of the left leg about two years ago, since which time she states that the cuticle has become more and more indurated. The limb is now encased in a horny covering. She has used many remedies, and swallowed nostrums of almost every description, but without the least benefit. Considering this a very good case for proving the efficacy of the sulphur bath, I determined upon giving it a fair trial, and the patient promised me faithfully to persevere in the use of the bath so long as I deemed it necessary. After a free course of purgatives and the application of leeches on several occa-

sions to the upper part of the affected limb, which was somewhat inflamed, I directed her to enter the sulphur bath every other morning. As it would be tedious to detail the reports taken from week to week during the attendance of this patient at the sulphur baths, I shall merely give the result. After the first three months, Barnes improved weekly. She persisted in the use of the baths for one year and a half, at the expiration of which period the hard scaly coating was entirely removed, and the limb had recovered its natural texture and softness.

In order to avoid an uninteresting detail of cases, in which the symptoms must necessarily be very similar, I have added the following tables, which strikingly show the remedial value of the sulphureous fumigations.

TABLE SHOWING THE RESULT OF THE SULPHUR BATH
IN FORTY CASES OF LEPROA VULGARIS.

No.	Name.	Duration of Complaint.	Remedies.	Result.	Remarks.
1	Mary Moor.....	7 months..	Sulphur bath.	Cured	In Moor's case many remedies had been previously employ'd without benefit. 900 baths.
2	Martha Cain	2 years ...	Ditto	Cured.	
3	Mary Walker.....	4 years ...	Ditto	Cured.	
4	Grace Euston....	12 months.	Ditto	Ditto.	
5	Mary M'Cann....	2 years....	Ditto	Ditto.	
					M'Cann had formerly taken Pil. Hydr. Oxy- mur. Pil. Plummeri, & used the unguentum picis cum sulphure.
6	Phoebe Darley ..	1 year	Ditto	Ditto.	This patient entered the bath 312 times.
7	Thomas Taylor ..	4 years ...	Ditto	Ditto.	
8	John Gregory....	9 months..	Ditto	Much relieved.	
9	Thos. Rinley	2 years ...	Ditto	Cured	
10	Geo. Knowles...	6 months..	Ditto	Ditto.	
11	Marg. Holme....	2 years....	Ditto	Ditto.	Pendlebury enter'd the bath 500 times.
12	Nich. Campbell..	1 yr. & a hf.	Ditto	Ditto.	
13	Han. Pendlebury.	6 years....	Ditto	Ditto.	
14	Frances Smith..	2 years....	Ditto	Ditto.	
15	Lydia Ellis.....	1 yr. & a hf.	Ditto	Discharged re- lieved.	
					Ellis was much better, but she was obliged to leave the town.
16	Mary Sloane ...	9 months..	Ditto	Ditto.	390 baths. 600 baths.
17	William Gibson..	1 year	Ditto	Ditto.	
18	James Brown ...	7 months..	Ditto	Cured.	
19	Henry Walker ...	2 yr. & a hf.	Ditto	Ditto.	
20	Lydia Ashworth.	5 years....	Ditto	Ditto.	
21	Thos. Baddeley..	1 year	Ditto	Ditto.	The bath was suspend- ed, owing to the occur- rence of phthysical symptoms.
22	Eliza Glansey ...	3 years ...	Ditto	Much relieved.	
23	John Horton	8 months..	Ditto	Cured.	
24	Michael Conolly..	16 months.	Ditto	Relieved.	
25	Samuel Hucksly ..	10 months.	Ditto	Ditto.	
26	Wm. Hoskinson..	1 year	Ditto	Ditto.	This was a very bad case. Ditto.
27	Mary Brown	18 months.	Ditto	Cured	
28	Griffith Heys ...	2 years....	Ditto	Ditto	
29	Abm. Molyneux ..	6 months..	Ditto	Ditto.	
30	Francis Rogers ..	12 months.	Ditto	Ditto.	
31	Eliza Twenlow...	2 years ...	Ditto	Ditto.	Much relieved.
32	M. Higginbottom.	1 year	Ditto	Much relieved.	
33	Cathe. Maryhill..	2 years ...	Ditto	Ditto.	
34	Mary Benson....	1 year	Ditto	Cured.	
35	Peter Mills.....	6 months..	Ditto	Ditto.	
36	C. Norbury.....	13 months.	Ditto	Ditto.	A very severe and ob- stinate case.
37	Elizabeth Carter.	3 ys. & a hf.	Ditto	Ditto	
38	William Barnes..	2 years ...	Ditto	Relieved.	
39	John Embleton..	9 months..	Ditto	Cured.	
40	William Knarley.	6 months..	Ditto	Ditto.	

TABLE

SHOWING

THE RESULT OF THE SULPHUR BATH IN TWENTY CASES OF
PSORIASIS.

No.	Name.	Age.	No. of baths.	Duration of Complaint.	Result.	Remarks.
1	Ann Noden.....	28	18	5 months	Relieved.	This female re- mains perfectly well.
2	James Collins.....	52	74	2 years	Cured.	
3	John Blair	20	38	5 months	Ditto.	
4	Isaac Jones.....	48	19	3 months	Relieved.	
5	Eliza Mortimer	64	200	2 years	Cured.	
6	Hannah Ryley	26	36	17 months	Ditto.	
7	Mary Weaves.....	21	24	9 months	Ditto.	
8	John Wilson	50	31	8 months	Ditto.	
9	Sarah Kean	30	44	12 months	Ditto.	
10	John Ruddy	29	33	16 months	Relieved.	
11	Hannah Fildes ...	41	27	3 months	Ditto.	
12	Mary Hopwood	37	34	7 months	Ditto.	
13	William Moran	39	300	9 years	Cured.	
14	Betty Cox	71	64	2 years	Cured.	
15	Sarah Vernon.....	44	17	6 months	Discontinued.	
16	Mary Williamson ...	25	29	9 months and a half	Cured.	
17	Mary Riley.....	—	19	4 months	Ditto.	
18	Elizabeth Reynolds..	26	32	19 months	Ditto.	
19	Michael Hardman...	33	179	4 years	Ditto.	
20	Ann Palmer.....	56	84	13 months	Ditto.	

TABLE

SHOWING

THE RESULT OF THE SULPHUR BATH IN FORTY CASES OF
CHRONIC RHEUMATISM.

No.	Name.	Age.	N. of baths.	Duration of Complaint.	Result.	Remarks.
1	Thomas Jackson.	36	34	Unknown.	Cured.	Had Brindle persevered for a short time longer in the use of the bath, there is every reason to suppose that she would have been completely cured.
2	Ann Horral.	19	17	2 years. . .	Ditto.	
3	Richard Brookes.	44	27	20 years ..	Relieved.	
4	Jane Brindle	23	27	12 years. . .	Much relieved.	
5	John Greenhalgh.	29	60	16 months.	Cured.	Sandham remains perfectly well.
6	Ann Pickup.	30	24	9 months. .	Much relieved.	
7	James Morris ...	36	46	20 months.	Cured.	
8	John Fix.	29	32	12 months.	Ditto.	
9	Benj. Edwards ...	39	104	2 ys. & a hf.	Ditto.	
10	John Drinkwater.	42	39	12 months.	Ditto.	
11	Richd. Knowley.	19	24	6 months. .	Ditto.	
12	Thomas Paine ..	30	39	18 months.	Relieved.	
13	Sarah Green	26	92	3 years. . .	Cured.	
14	Simon Molinenx.	32	18	3 months. .	Ditto.	
15	David Johnson ..	21	25	Ditto.	Ditto.	
16	John Jones.	29	20	5 months. .	Ditto.	
17	L. Sandham	36	314	4 years. . .	Ditto.	
18	Jane Moore.	21	10	3 months. .	Discontinued.	
19	Ann Allum.	30	38	9 months. .	Cured.	
20	— Oldham	39	42	1 year	Relieved.	
21	Thomas Hudson..	44	32	15 months.	Ditto.	
22	Richard Hughes..	42	29	9 months. .	Cured.	
23	John Gregory ...	18	6	2 months. .	Ditto.	
24	— Silk.	60	24	8 months. .	Ditto.	
25	Mary Musgrave..	57	20	14 years ..	Discontinued.	
26	Margaret Purdy..	31	146	2 ys. & a hf.	Cured.	
27	Daniel Duggan..	20	33	1 year	Ditto.	
28	Mary Jubb.	54	20	6 months. .	Ditto.	
29	— Waters	52	39	24 years ..	Relieved.	
30	Ann Siddall	14	19	3 months. .	Cured.	
31	Mary Sampson ..	18	24	9 months. .	Cured.	
32	Ann Penson	17	20	Ditto.	Ditto.	
33	Sarah Swinton ..	50	29	6 months. .	Ditto.	
34	Rachael Leader..	22	19	Ditto.	Ditto.	
35	John Kenney....	24	19	Ditto.	Ditto.	
36	Mary Rae.	32	24	15 months.	Ditto.	
37	James Oats.	22	16	9 months. .	Ditto.	
38	Fred. Bardsley ..	18	19	6 months. .	Ditto.	
39	Eliz. Rice.	39	47	2 years. . .	Ditto.	
40	James Davis	44	93	Ditto.	Relieved.	

MONTHLY STATEMENT OF PATIENTS AND BATHS, given
at the Infirmary Sulphur Baths, from the 10th of January 1825,
to the 1st of March 1828 inclusive.

Months.	No. of Patients.	No. of Baths.
1825.		
January	46	113
February.....	60	158
March	70	182
April	65	128
May.....	70	157
June	80	193
July	85	172
August	48	94
September	63	120
October	109	238
November	73	171
December	99	266
1826.		
January	62	155
February.....	68	179
March	96	240
April	127	311
May	111	305
June	98	296
July	84	238
August	80	200
September	116	312
October	95	275
November	81	228
December	101	268
1827.		
January	77	203
February.....	70	187
March	89	202
April	61	158
May	75	190
June	115	290
July	61	150
August	56	110
September	94	238
October ..	98	252
November	74	186
December	76	200
1828.		
January	50	156
February.....	47	141
March	12	40
Total	3046	7732

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